PCV-RX463DS/RX465DS

SERVICE MANUAL

Ver 2-2003L

Revision History

Differences Manual

PCV-RX463DS/RX465DS is almost same as PCV-RX470DS.
This manual contains only the points which differ from PCV-RX470DS.
Please refer to PCV-RX450/RX460/RX470DS/RX480DS/RX490TV service manual
(9-874-306-12) for the information not contained in this manual.

● **Main differences**
1. PCV-RX465DS: CPU (P4/1.4GHz)
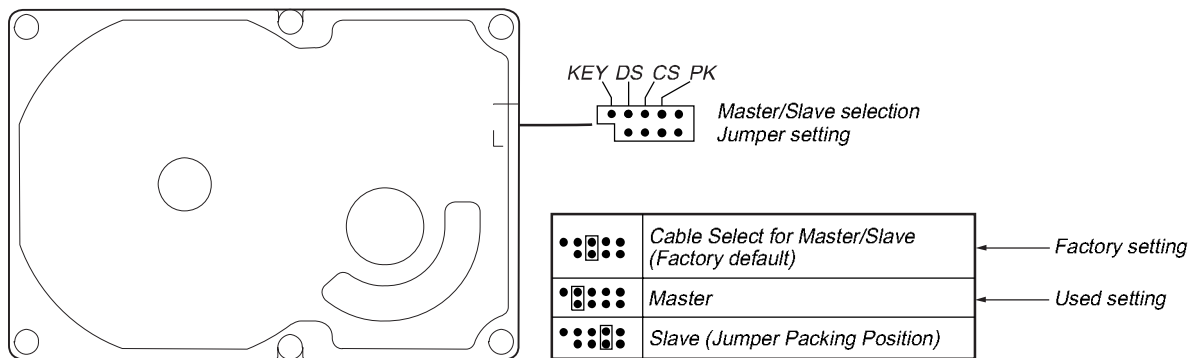2. PCV-RX463DS: CPU (P4/1.4GHz), HDD (40GB)

	PCV-RX470DS	PCV-RX465DS	PCV-RX463DS
CPU	P4/1.5GHz	P4/1.4GHz	
HDD	60GB ×1		40GB ×1

SECTION 5
SERVICE INFORMATION

5-1. JUMPER SETTING ON HARD DISK DRIVE

The hard disk drive of service parts can be used without changing factory jumper setting, when it was replaced for service.

Model	Part No.	Maker	Code	Capacity (formatted)
PCV-RX465DS	A-8049-328-A	Quantum	Fireball AS60.0	60 GB

KEY DS CS PK

Master/Slave selection
Jumper setting

	Cable Select for Master/Slave (Factory default)
	Master
	Slave (Jumper Packing Position)

← Factory setting

← Used setting

* Change the jumper setting cable select. → Master

Model	Part No.	Maker	Code	Capacity (formatted)
PCV-RX463DS	A-8048-262-A	Seagate	ST340823A	40 GB

7   1

8   2

Master/Slave selection
Jumper setting

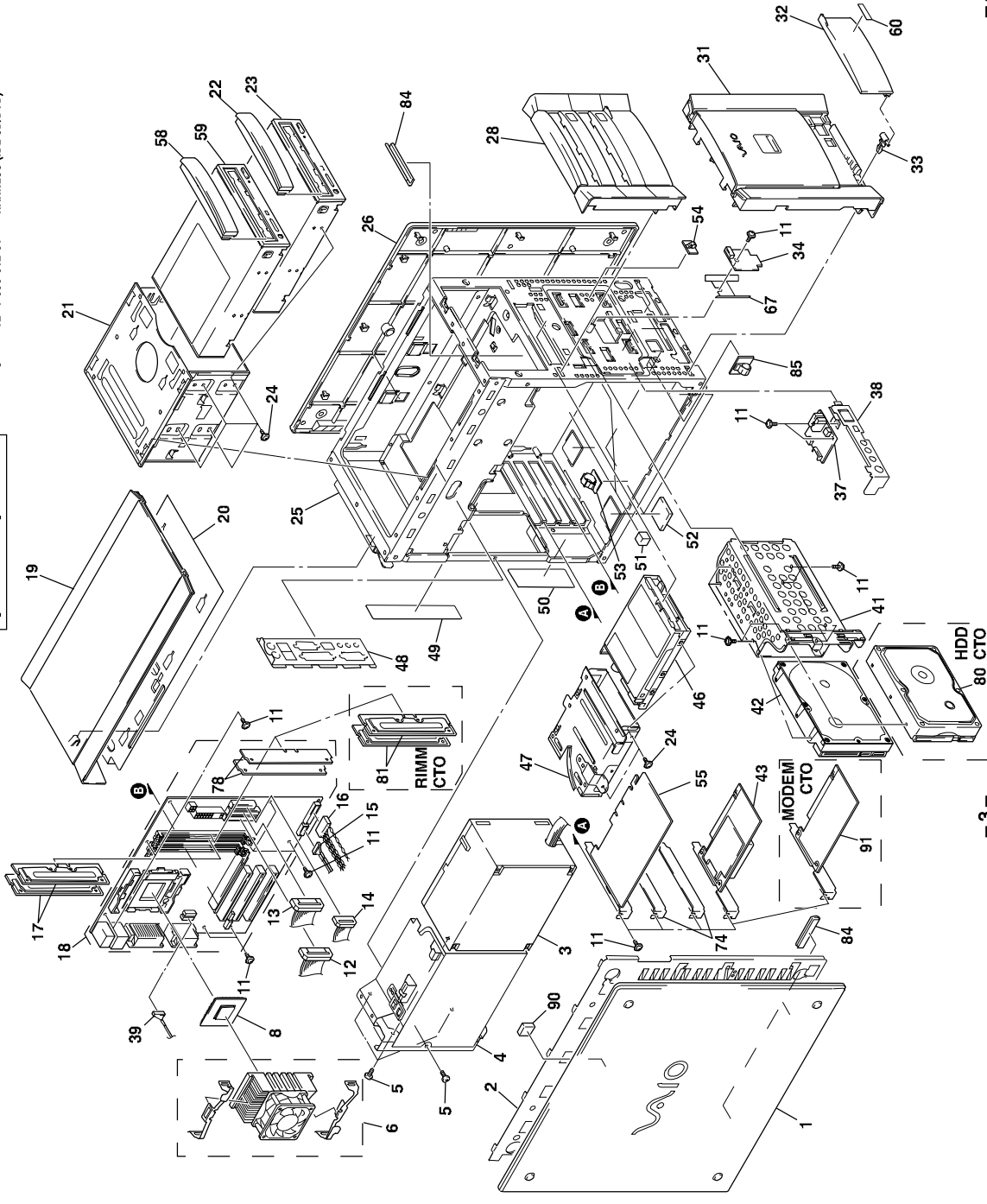|	
	Master or single drive
	Drive is a slave
	Master with a non-ATA compatible slave
	Enable cable select

← Factory setting

SECTION 7
REPAIR PARTS LIST

NOTE:
- The parts listed here are for service, and therefore they may be different from the parts shown in circuit diagrams or used in the set.
- The category "O" in S/P column denotes that the parts are not always stocked.
- The parts with ♦ marking are stocked at the Division.

7-1. EXPLODED VIEWS AND PARTS LIST

> The components identified by mark △ or dotted line with mark △ are critical for safety.
> Replace only with part number specified.
> Les composants identifiés par une marque △ sont critiques pour la sécurité.
> Ne les remplacer que par une pièce portant le numéro spécifié.

S/P	Ref. No.	Part No.	Description	Remark
S	1	4-648-912-31	PANEL, LEFT	
O	2	X-4623-012-1	LEFT CHASSIS ASSY	
△S	3	1-468-601-13	POWER UNIT	
△S	3	1-468-601-23	POWER UNIT	
O	4	X-4623-542-1	BRACKET (PS (280W)) ASSY	
S	5	4-635-795-01	SCREW (NO.6-32UNC)	
S	6	1-763-675-21	FAN, DC (WITH HEAT SINK)	
♦8	8	A-8025-451-A	CPU (P4/1.4G/4WS) ASSY (S)	
S	11	4-645-944-01	SCREW (SW) (NO.6-32UNC)	
S	12	1-959-912-31	HARNESS (IDE CD/DVD)	

S/P	Ref. No.	Part No.	Description	Remark
S	13	1-960-364-31	HARNESS (IDE/ATA100)	
S	14	1-959-946-41	HARNESS (FDD)	
S	15	1-960-947-31	HARNESS (USB/LUKE)	
S	16	1-959-912-21	HARNESS (SW/LED)	
S	17	8-749-019-34	RIMM 64MB (MC-4R64CPE6C-845)	
♦18	18	A-8025-155-A	MOTHER BOARD (YA) ASSY (S)	
O	19	4-648-911-31	PANEL, TOP	
O	20	4-648-889-01	UPPER CHASSIS	
O	21	X-4623-008-1	CD HOLDER ASSY	
S	22	4-648-882-31	ESCUTCHEON (S)	
♦23	23	A-8049-315-A	CD-RW DRIVE (160E-T3MM) ASSY (S)	
O	24	7-682-903-01	SCREW +PWH 3X5	
O	25	X-4623-521-1	CHASSIS ASSY, MAIN	
S	26	4-648-910-31	PANEL, RIGHT	
S	28	A-8025-103-A	PANEL ASSY (UPPER) (for 2 BAY) (U)	
S	31	A-8025-104-A	PANEL ASSY (LOWER) (U)	
S	32	X-4623-909-1	AUDIO ASSY (U), DOOR	
S	33	4-045-250-21	DAMPER	
♦34	34	1-761-387-11	BOARD, SWX-66	
S	37	1-681-235-11	BOARD, CNX-138	
S	38	X-4623-522-1	BRACKET AV ASSY	
S	39	1-959-197-21	HARNESS (1394)	
S	41	X-4623-010-2	BRACKET ASSY, HDD	
♦42	42	A-8048-262-A	HDD/S-U5 (40GB) ASSY (S)	(RX463DS)...
♦42	42	A-8049-328-A	HDD/Q-FAS (60GB) ASSY (S)	(RX465DS)...
♦42	42	A-8110-895-A	HDD(S-U6/60G)ASSY (S)	(RX465DS)...
S	43	1-761-430-11	MODEM CARD (LOW PROFILE)	
♦46	46	1-772-251-41	FDD	
O	47	X-4623-520-1	BRACKET ASSY, FDD	
O	48	X-4623-108-1	BRACKET (ATX) ASSY (1394)	
O	49	4-654-832-01	LABEL, I/O	
O	50	4-654-835-01	LABEL, SLOT	
S	51	4-650-918-11	SPACER, MB	
O	52	4-643-547-01	FOOT	
O	53	4-640-554-11	CABLE CLAMP	
O	54	4-640-554-21	CABLE CLAMP	
S	55	1-761-406-11	CARD, VGA (GE FORCE2)	
O	58	4-648-913-11	ESCUTCHEON (P)	
S	59	1-796-084-11	DVD-ROM/P-G6TR (16X)	
O	60	4-656-285-01	(RX465DS)...LABEL, ID	
O	60	4-656-332-01	(RX463DS)...LABEL, ID	
O	67	4-651-252-01	SHIELD, LED	
O	74	4-650-779-01	PANEL, PCI SLOT	
S	78	1-761-410-11	CRIMM (YO)	
♦80	80	A-8049-313-A	HDD/M-LEO (80GB) ASSY (S)	for CTO option
S	81	8-749-019-79	RIMM 64MB (MR16R0824BN1-CK8)	for CTO Option
S	81	6-600-004-01	RIMM 128MB (MR16R0828BN1-CK8)	for CTO option
O	84	4-079-636-01	GASKET (A)	
O	85	4-640-554-01	CABLE CLAMP	
O	90	4-656-049-01	SPACER, LEFT PANEL	
♦91	91	1-761-444-11	CARD, MODEM for CTO option	
S		7-300-000-40	SILICON COMPOUND (G-765) 90G * Used on replacing CPU, heat sink. (Refer to page 2-14)	

PCV-RX463DS/RX465DS (UC)

MEMO

7-2. ACCESSORIES AND PARTS LIST

201
POWER CORD (1)

204
KEYBOARD (1)

213
214

205
MOUSE (1)

207
MODEM CABLE (1)

215
SPEAKER UNIT (1)

216
AC ADAPTOR (1)

S/P	Ref. No.	Part No.	Description	Remark
			ACCESSORIES & PACKING MATERIALS	
			*************************************	
S		4-655-700-01	USER GUIDE	
S		4-655-701-01	QUICK START	
⚠S	201	1-777-786-11	CORD, AC	
S	204	1-772-704-71	KEY BOARD (US)	
S	205	1-772-207-71	WHEEL MOUSE (PS/2)	
S	207	1-782-207-11	CABLE, MODEM	
S	213	9-885-008-07	REST, PALM	
S	214	9-885-000-89	PLATE (PLAIN), TOP	
S	215	1-544-899-11	SPEAKER UNIT	
⚠S	216	1-476-386-21	ADAPTOR, AC (for SPEAKER UNIT)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
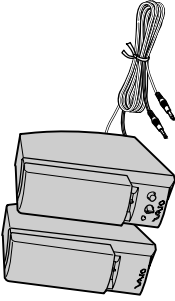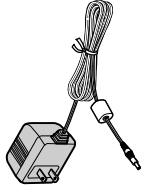

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PCV-RX463DS/RX465DS (UC)

SONY

Sony Corporation

Revision History

Suffix	Ver.	Date	Contents	QM No.
-11	Ver. 1	2001.6.	First Edition	
-12	Ver. 2	2003.12.25	QUICK MEMO reflection (FIT-D2001_009,FIT-D2002_164,FIT-D2003_021)	FIT-D2003_207

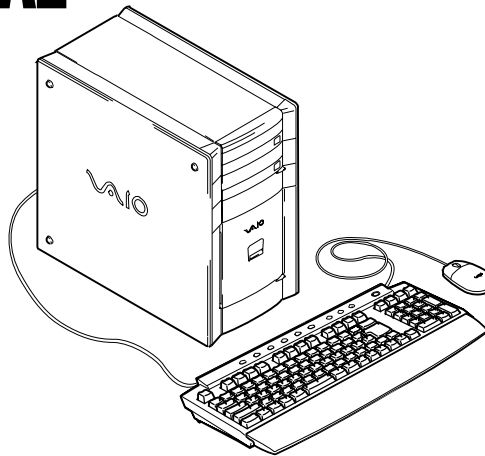< Remarks >

PCV-RX463DS/RX465DS (UC)

PCV-RX450/RX460/RX470DS/ RX480DS/RX490TV

SERVICE MANUAL

US Model
Canadian Model

Ver 2-2003L

S400

VAIO

Specifications

PERSONAL COMPUTER VAIO

SONY®

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CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the ($\triangle$ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires. therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

• The temperature of the soldering-iron tip should be about 270°C.
• Do not apply the tip more than three times to the same pattern.
• Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

TABLE OF CONTENTS

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SECTION 2
DISASSEMBLY

2-1. FLOW CHART

```
┌──────────┐      ┌──────────┐     ┌──────────┐    ┌──────────┐    ┌──────────┐
│TOP PANEL │─────▶│DVD-ROM,  │────▶│PANEL ASS'Y│──▶│FRONT PANEL│──▶│RIGHT     │
│SECTION   │      │DVD-RW,   │     │(UPPER)   │    │ASS'Y      │   │PANEL     │
│          │      │CD-RW,    │     │(FOR 2 BAY)│   │(LOWER) (U)│   │          │
│P2-2      │      │CD-ROM    │     │ P2-8     │    │ P2-8     │    │ P2-9     │
└──────────┘      │ P2-3     │     └──────────┘    └──────────┘    └──────────┘
                  └──────────┘
                                                    ┌──────────┐
                                                    │CNX-138   │
                                                    │BOARD     │
                                                    │ P2-9     │
                                                    └──────────┘
┌──────────┐                                        ┌──────────┐    ┌──────────┐
│LEFT PANEL│                                        │CNX-137   │    │SWX-66    │
│SECTION   │                                        │BOARD     │    │BOARD     │
│ P2-2     │                                        │ P2-10    │    │ P2-11    │
└──────────┘                                        └──────────┘    └──────────┘
                  ┌──────────┐                                      ┌──────────┐
                  │SWITCHING │                                      │MEMORY,   │
                  │POWER     │                                      │CRIMM     │
                  │ P2-4     │          ┌──────────┐                │ P2-12    │
                  └──────────┘          │FDD       │                └──────────┘
                                        │ P2-11    │                ┌──────────┐
                                        └──────────┘                │CPU       │
                                                                    │ P2-13    │
                  ┌──────────┐                                      └──────────┘
                  │HDD       │
                  │ P2-5     │                                      ┌──────────┐
                  └──────────┘                                      │MOTHER    │
                  ┌──────────┐                                      │BOARD     │
                  │PCI SLOT  │                                      │ P2-15    │
                  │PANEL     │                                      └──────────┘
                  │ P2-5     │
                  └──────────┘
                  ┌──────────┐
                  │VGA CARD  │
                  │(GE FORCE2)│
                  │ P2-6     │
                  └──────────┘
                  ┌──────────┐
                  │MODEM CARD│
                  │(LOW PROFILE)│
                  │ P2-6     │
                  └──────────┘
                  ┌──────────┐
                  │MOUNTED PWB│
                  │ENX-15    │
                  │ P2-7     │
                  └──────────┘
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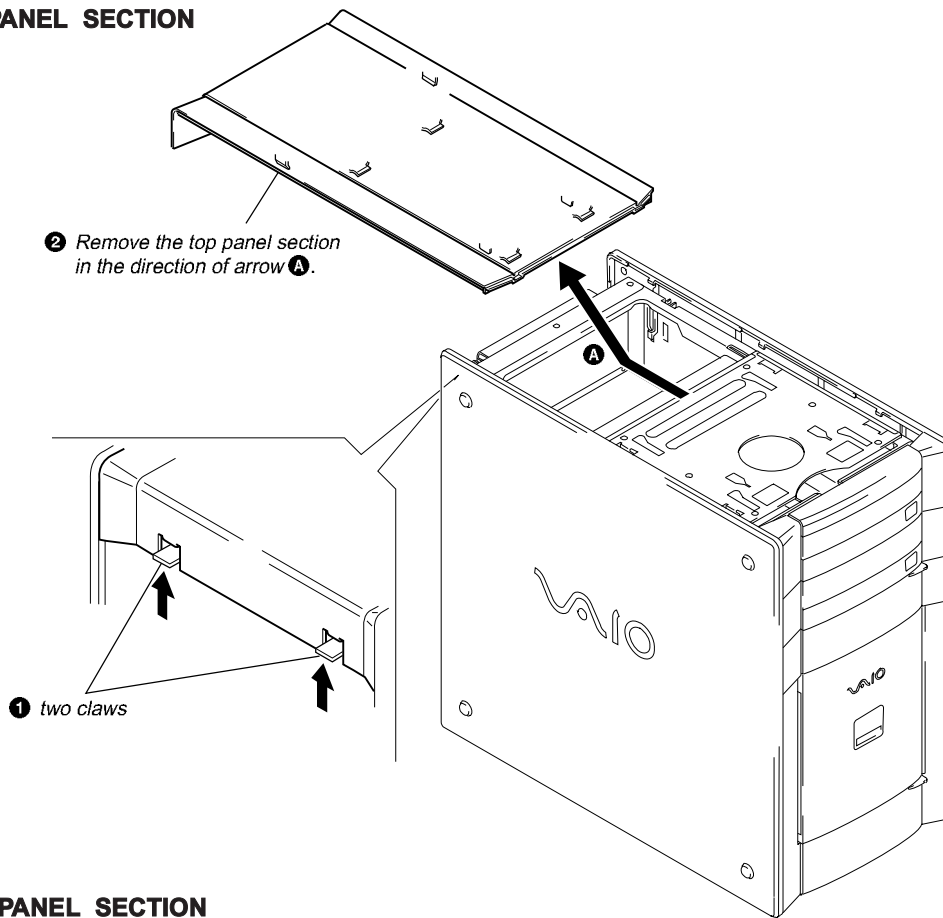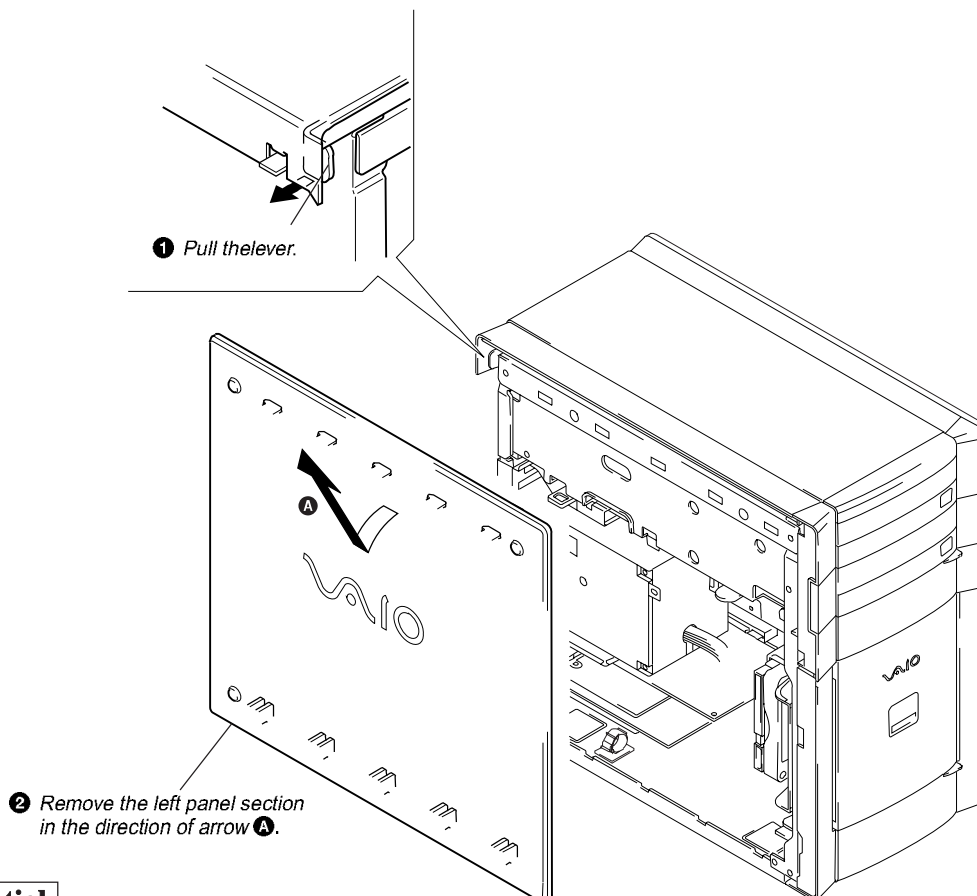
- P□-□ denotes the page concerned.
- HDD has a low resistance to vibration, requiring careful handling.
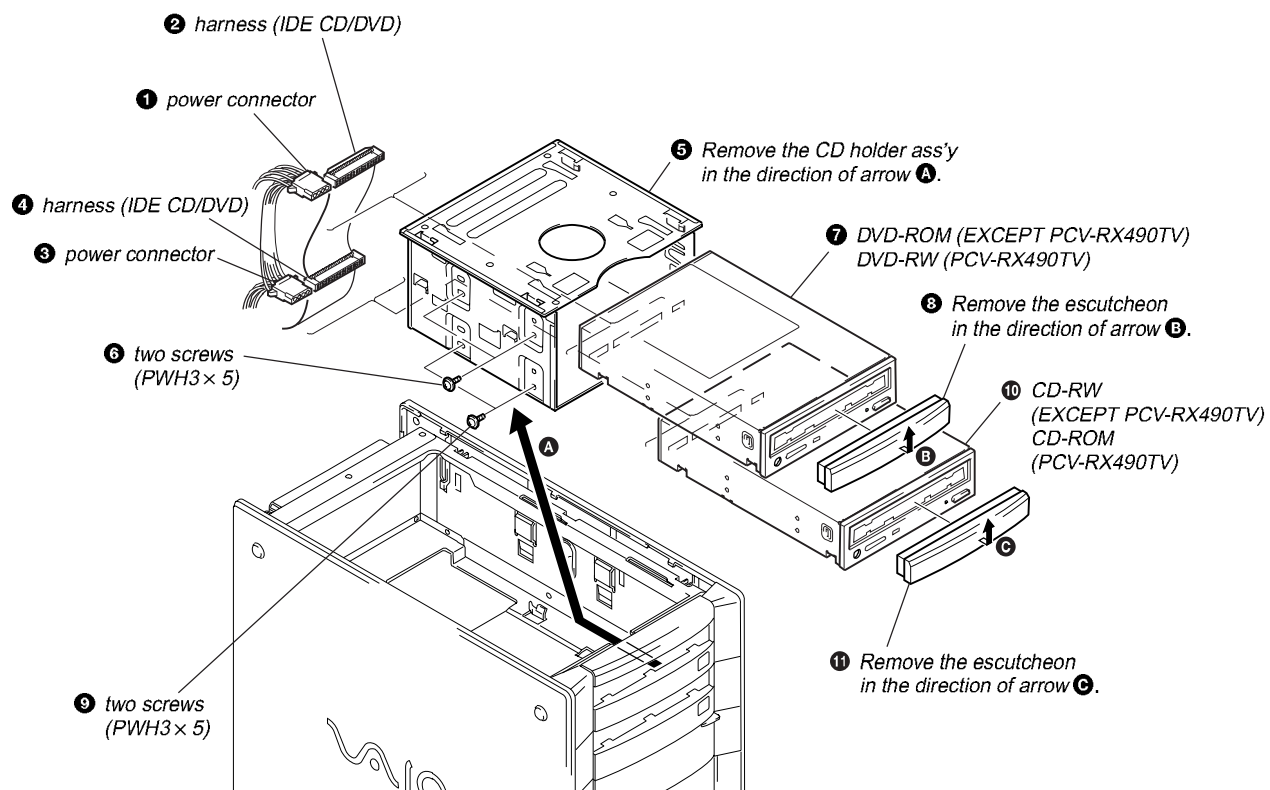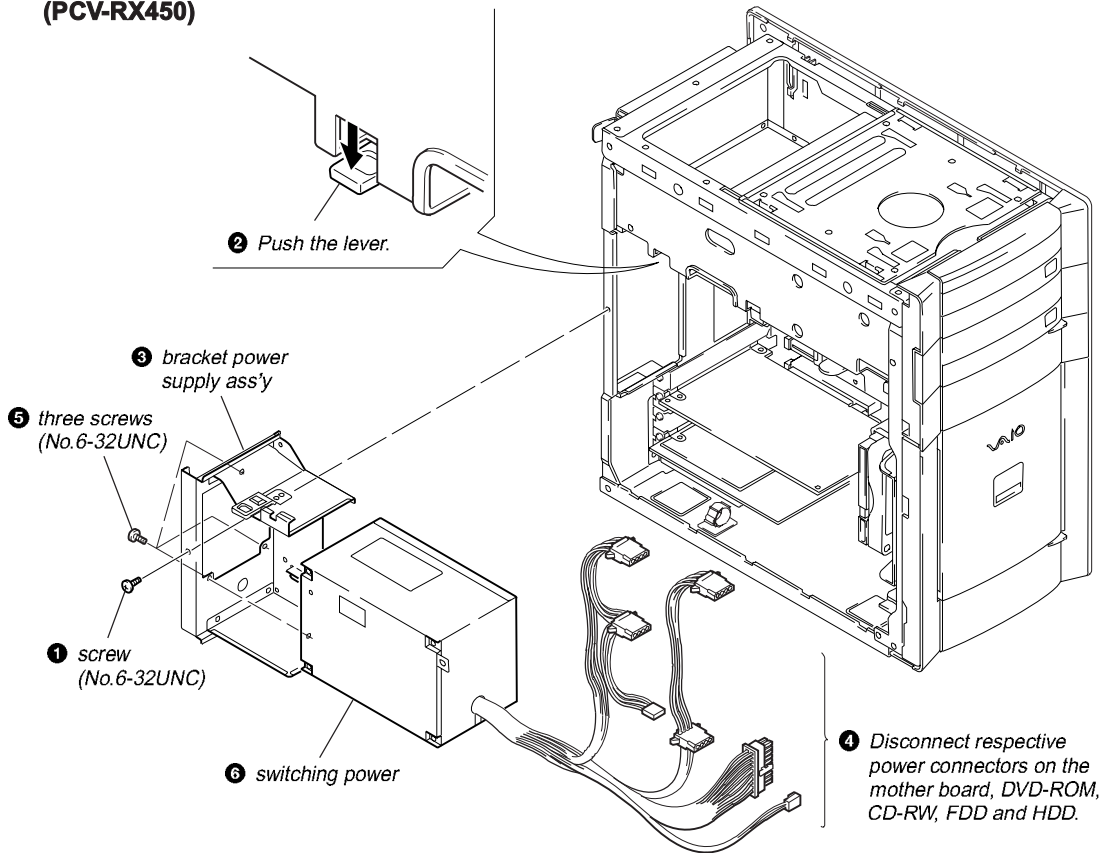
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2-2. TOP PANEL SECTION

❷ Remove the top panel section in the direction of arrow Ⓐ.

Ⓐ

❶ two claws

2-3. LEFT PANEL SECTION

❶ Pull the lever.

Ⓐ

❷ Remove the left panel section in the direction of arrow Ⓐ.

2-4. DVD-ROM, DVD-RW, CD-RW, CD-ROM

❷ harness (IDE CD/DVD)

❶ power connector

❺ Remove the CD holder ass'y in the direction of arrow ⒶA.

❹ harness (IDE CD/DVD)

❸ power connector

❼ DVD-ROM (EXCEPT PCV-RX490TV) DVD-RW (PCV-RX490TV)

❽ Remove the escutcheon in the direction of arrow ⒷB.

❻ two screws (PWH3 × 5)

❿ CD-RW (EXCEPT PCV-RX490TV) CD-ROM (PCV-RX490TV)

Ⓐ

Ⓑ

Ⓒ

⓫ Remove the escutcheon in the direction of arrow ⒸC.

❾ two screws (PWH3 × 5)

2-5. SWITCHING POWER
(PCV-RX450)

❷ Push the lever.

❸ bracket power supply ass'y

❺ three screws (No.6-32UNC)

❶ screw (No.6-32UNC)

❻ switching power

❹ Disconnect respective power connectors on the mother board, DVD-ROM, CD-RW, FDD and HDD.

(PCV-RX460/RX470DS/RX480DS/RX490TV)

❷ Push the lever

❺ three screws (No.6-32UNC)

❸ bracket power supply ass'y

❶ screw (No.6-32UNC)

❻ switching power

❹ Disconnect respective power connectors on the mother board, DVD-ROM, DVD-RW, CD-RW, CD-ROM, FDD and HDD.

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2-6. HDD

❸ *Push the lever.*

❺ *two screws (SW) (No.6-32UNC)*

❶ *harness (IDE/ATA66)*

❹ *HDD bracket ass'y*

❺ *two screws (SW) (No.6-32UNC)*

❻ *HDD*

❷ *power connector*

2-7. PCI SLOT PANEL

❷ *PCI slot panel (PCV-RX450/RX460)*

❶ *screw (SW) (No.6-32UNC) (PCV-RX450/RX460)*

❸ *screw (SW) (No.6-32UNC)*

❹ *PCI slot panel*

❻ *PCI slot panel (PCV-RX450/RX460/ RX470DS/RX480DS)*

❺ *screw (SW) (No.6-32UNC) (PCV-RX450/RX460/RX470DS/RX480DS)*

2-8. VGA CARD (GE FORCE2) (PCV-RX470DS/RX480DS/RX490TV)

AGP

❶ screw
(SW) (No.6-32UNC)

❸ VGA card (GE force2)

❷ Push the clip.

2-9. MODEM CARD (LOW PROFILE)

PCI3

❶ screw
(SW) (No.6-32UNC)
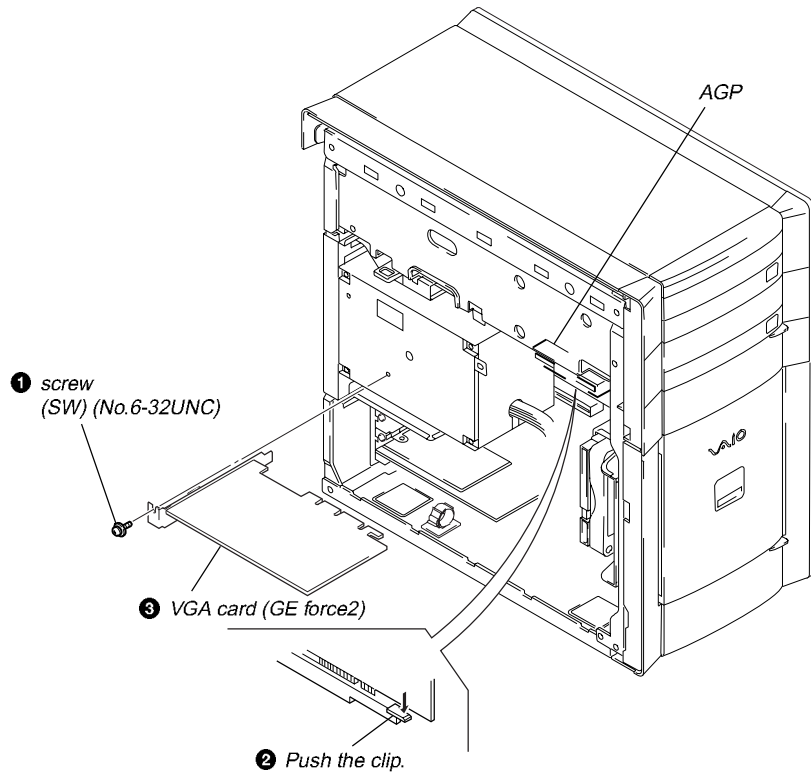
❷ modem card (low profile)
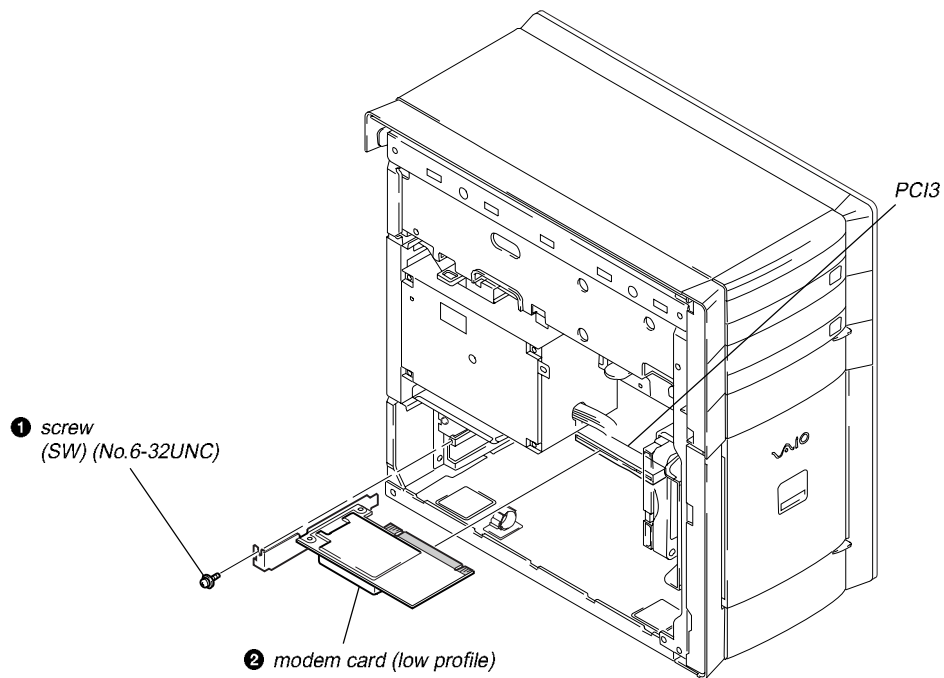
2-10. MOUNTED PWB ENX-15 (PCV-RX490TV)
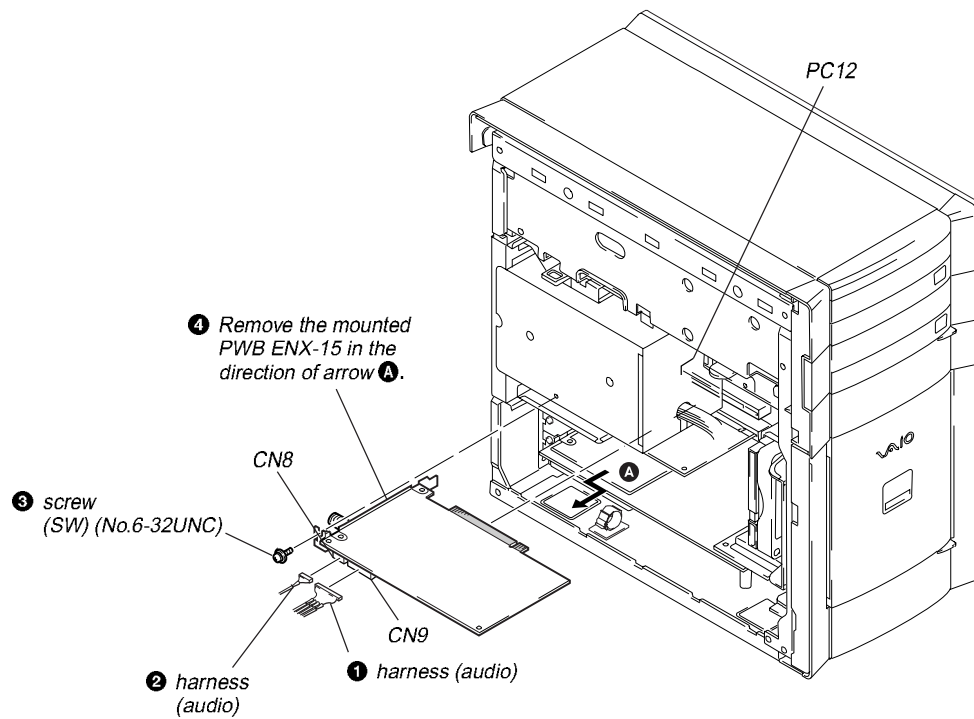
PC12

❹ *Remove the mounted PWB ENX-15 in the direction of arrow Ⓐ.*

CN8

❸ *screw (SW) (No.6-32UNC)*

Ⓐ

❷ *harness (audio)*

❶ *harness (audio)*

CN9

2-11. PANEL ASS'Y (UPPER) (FOR 2 BAY)

❸ *two claws*

❹ *panel ass'y (upper) (for 2 bay)*

❷ *two claws*

❶ *Open the door (FDD) ass'y.*

2-12. FRONT PANEL ASS'Y (LOWER) (U)

❸ *two claws*

❹ *Remove the front panel ass'y (lower) (U) in the direction of arrow Ⓐ.*

❷ *two claws*

Ⓐ

❶ *two claws*

2-13. RIGHT PANEL

❶ *two claws*

❷ *Remove the right panel in the direction of arrow **Ⓐ**.*
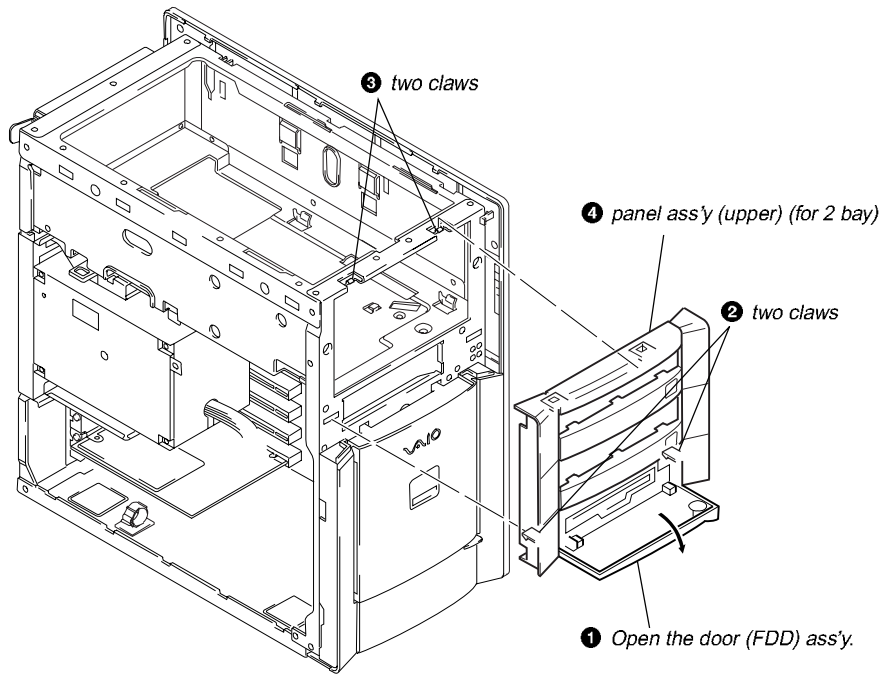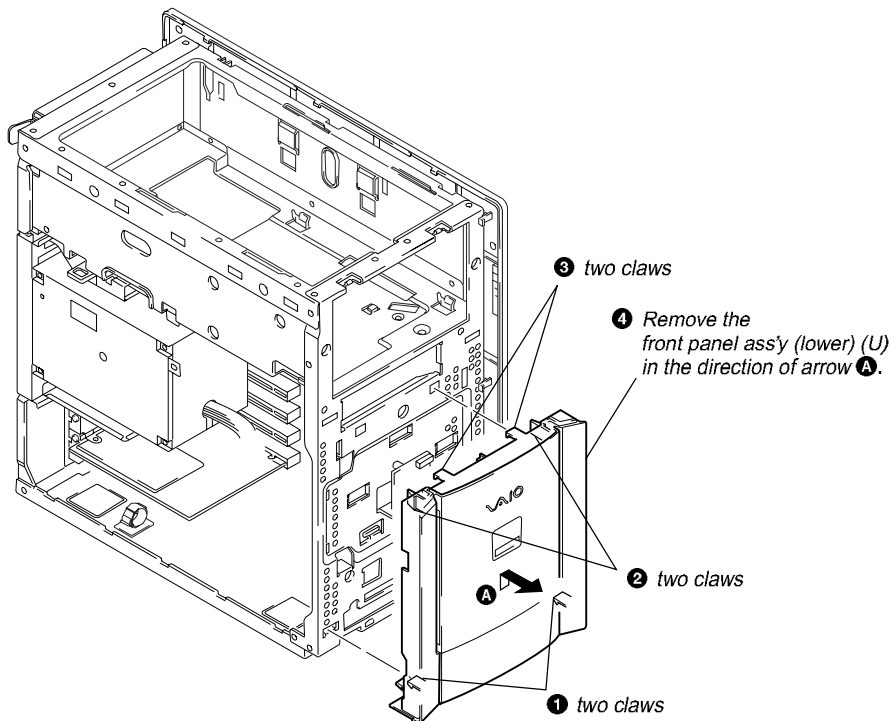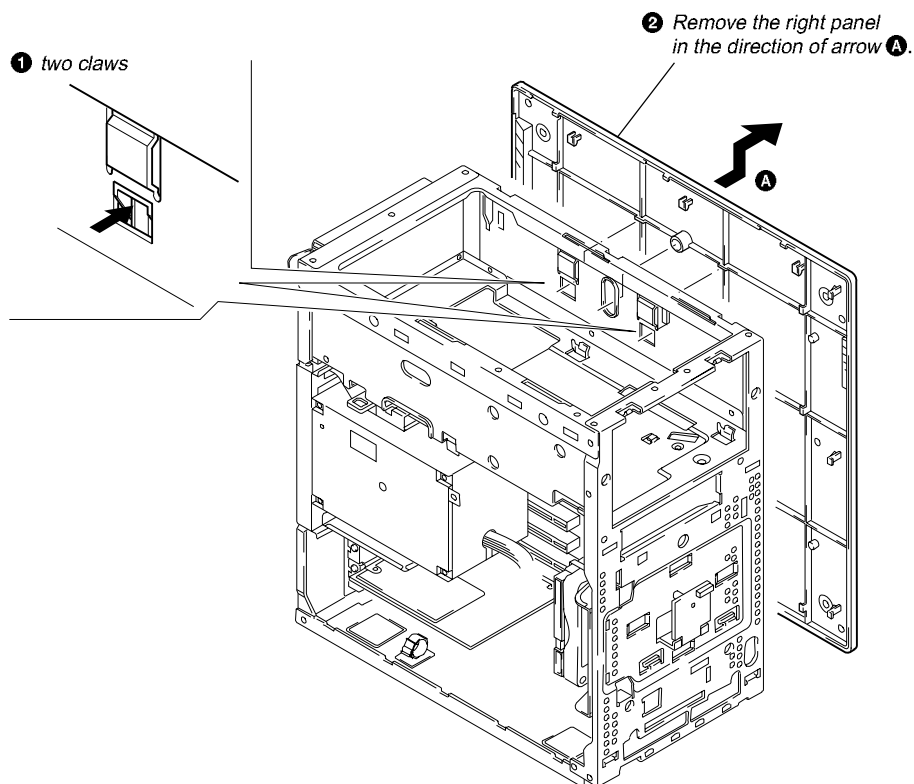
2-14. CNX-138 BOARD
(PCV-RX450/RX460/RX470DS/RX480DS)

❹ *two screws (SW) (No.6-32UNC)*

❷ *harness (USB/LU)*

❶ *harness (1394)*

❺ *CNX-138 board*

❸ *Remove the bracket AV ass'y in the direction of arrow **Ⓐ**.*
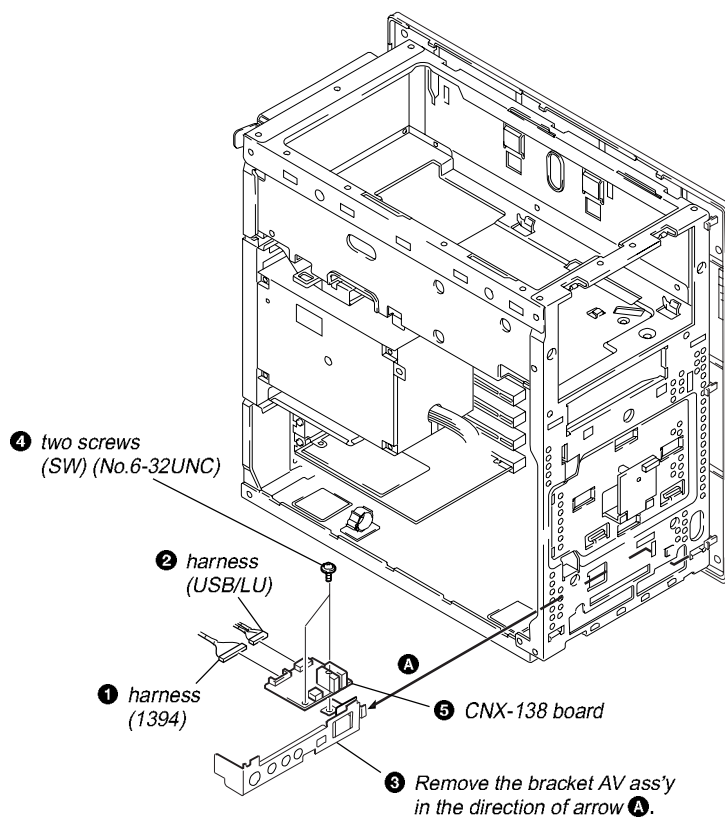
2-15. CNX-137 BOARD
(PCV-RX490TV)

❺ three screws
(SW) (No.6-32UNC)

❸ harness
(USB/LU)

❷ harness
(1394)

❶ harness (AUDIO)

❻ CNX-137 board

Ⓐ

❹ Remove the bracket AV ass'y
in the direction of arrow Ⓐ.

2-16. SWX-66 BOARD

❶ harness (SW/LED)

❹ LED shield

❷ screws (SW) (No.6-32UNC)

❸ SWX-66 board

2-17. FDD

❷ Push the lever.

❸ Remove the FDD bracket ass'y in the direction of arrow Ⓐ.

❶ harness (FDD)

Ⓐ

❹ two screws (PWH3 × 5)

❺ FDD
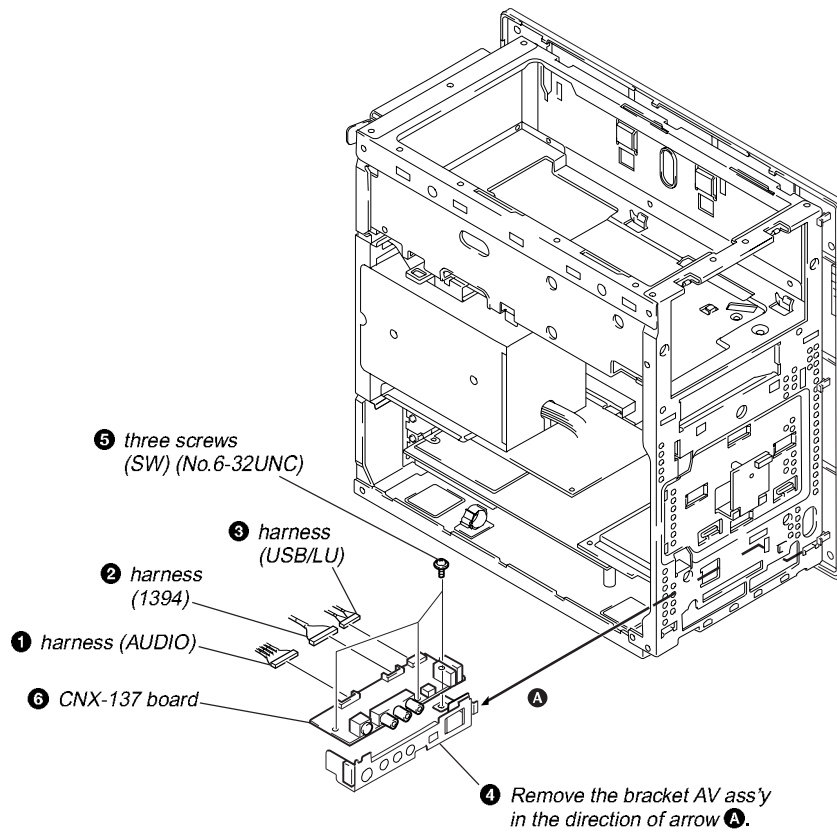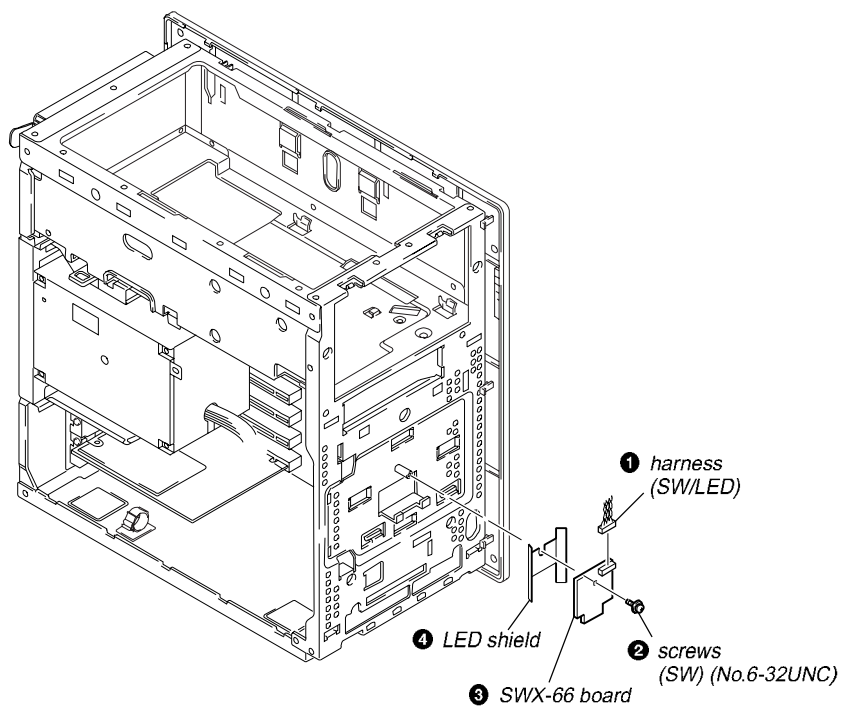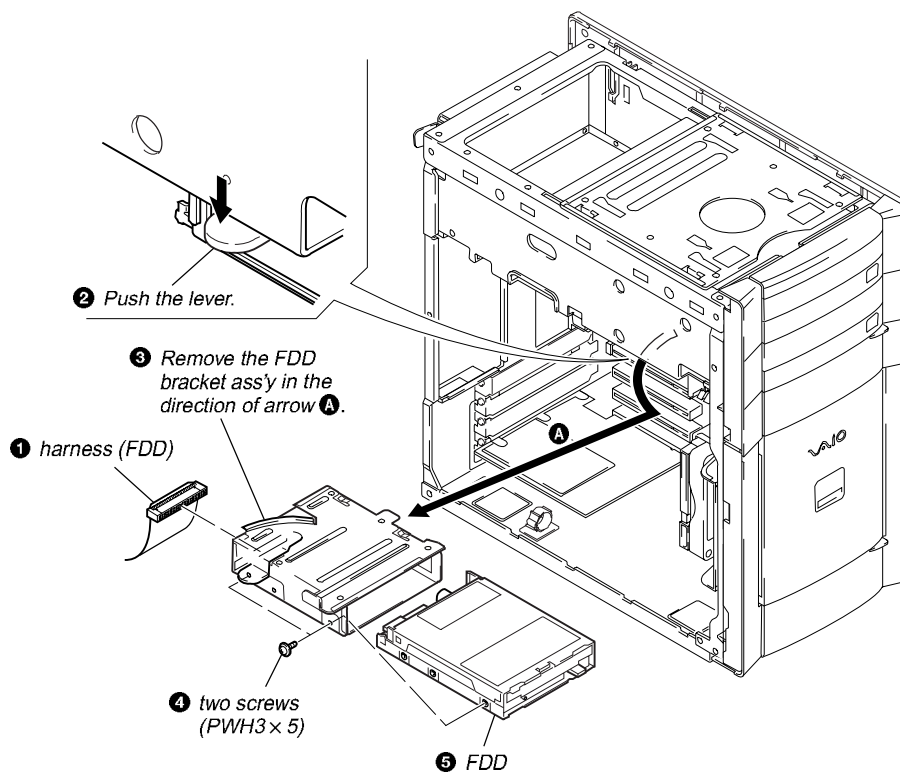
2-18. MEMORY, CRIMM
(PCV-RX450/RX460)

❶ *Open two clips.*

❷ *memory (DIMM)*
Note 1: In opening the clips,
*   hold lightly the top of the memories*
*   with your fingers to prevent a drop.*
Note 2: In removing the memories,
*   always start from the one*
*   having largest bank number.*

(PCV-RX470DS/RX480DS/RX490TV)

❸ *Open two clips.*

❶ *Open two clips.*

❹ *memory (RIMM) × 2*
Note 1: In opening the clips,
*   hold lightly the top of the memories*
*   with your fingers to prevent a drop.*
Note 2: In removing the memories,
*   always start from the one*
*   having largest bank number.*

❷ *CRIMM × 2*

❶ *Open two clips.*

❸ *Open two clips.*

2-19. CPU
(PCV-RX450/RX460)

❶ harness

❺ Elect the lever
in the direction of arrow Ⓐ.

❷ harness
(thermistor)

❸ clip

❻ CPU

❹ DC fan
(with heat sink)

(PCV-RX470DS/RX480DS/RX490TV)

❶ harness

Ⓐ

❸ DC fan
(with heat sink)

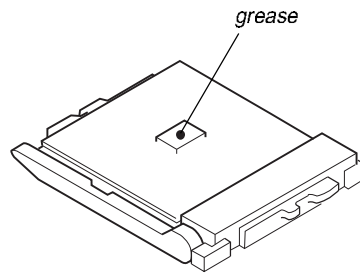❺ CPU

❷ clip

❹ Elect the lever
in the direction of arrow Ⓐ.

❷ clip

• CPU INSTALLATION

*Note : When CPU and heat sink are replaced,
install new ones after thermal diffusion
grease is wiped off and silicon compound
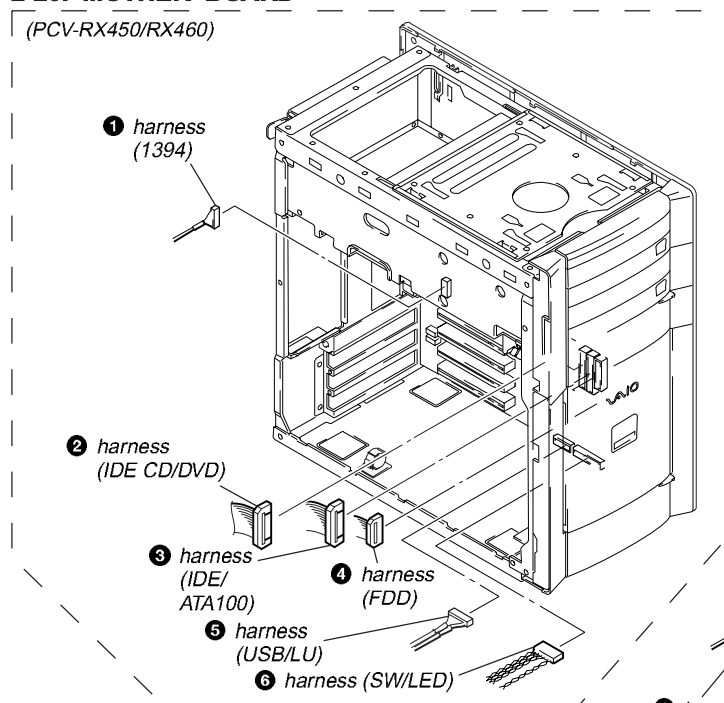is applied to the place shown in the figure.*

Thermal diffusion grease : silicon compound (G-765) 90G
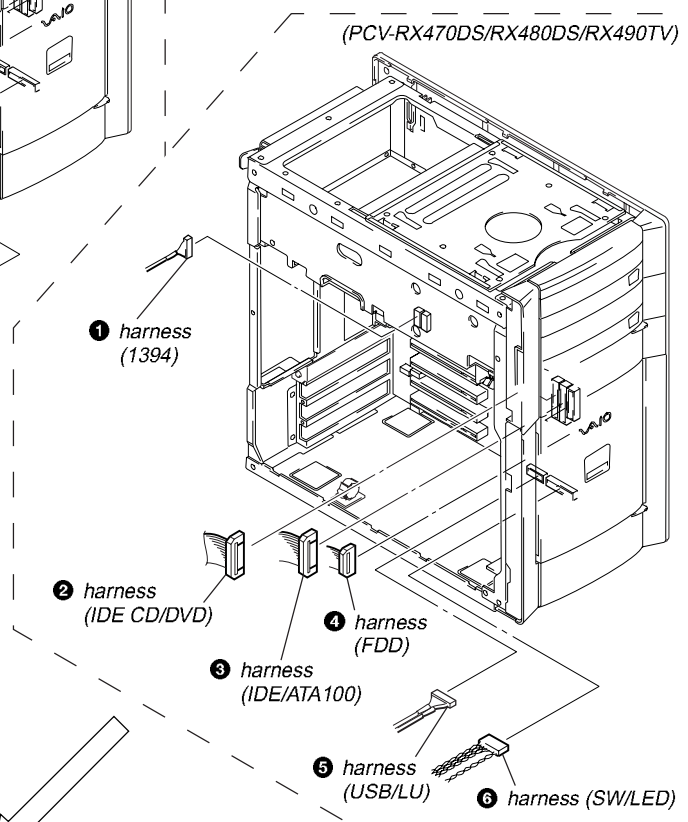*Amount to apply   : 0.1 g (as the same size as the tip of a match)*

grease

*✱Take care not to apply the grease
to any other places because it has
high conductivity.*
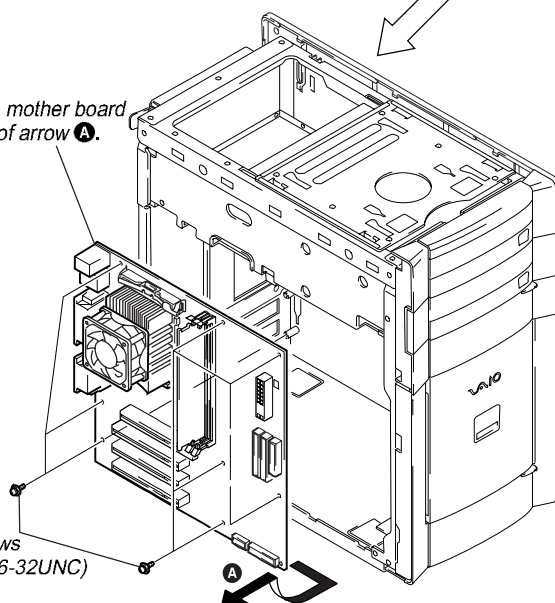
2-20. MOTHER BOARD

(PCV-RX450/RX460)

❶ harness
(1394)

❷ harness
(IDE CD/DVD)

❸ harness
(IDE/
ATA100)

❹ harness
(FDD)

❺ harness
(USB/LU)

❻ harness (SW/LED)

(PCV-RX470DS/RX480DS/RX490TV)

❶ harness
(1394)

❷ harness
(IDE CD/DVD)

❹ harness
(FDD)

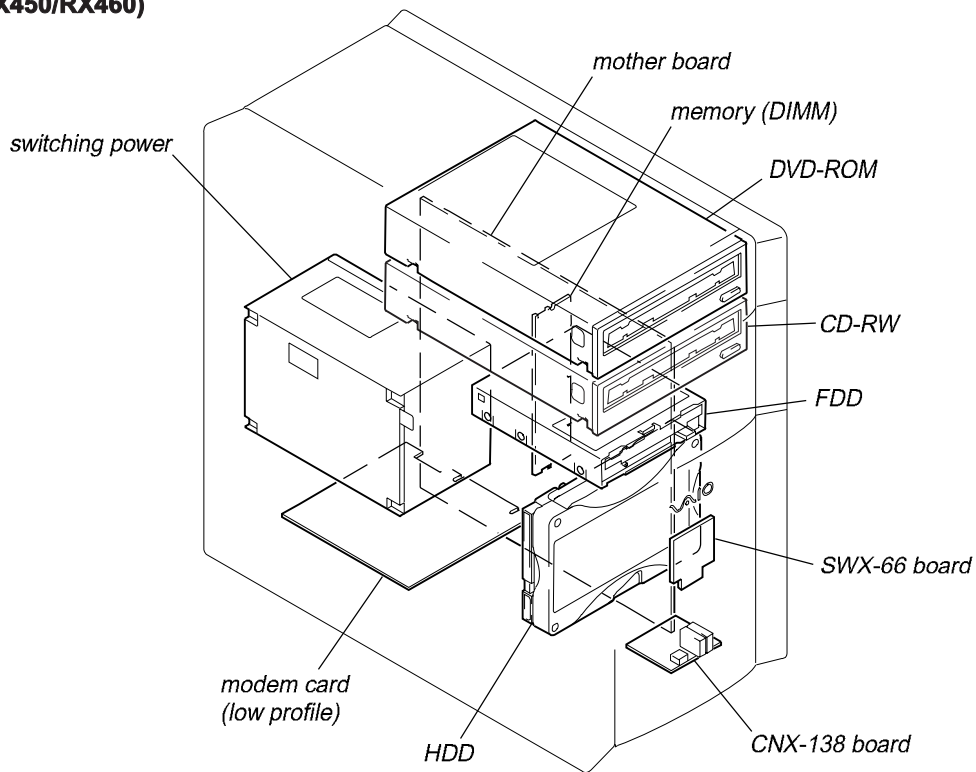❸ harness
(IDE/ATA100)

❺ harness
(USB/LU)

❻ harness (SW/LED)

❽ Remove the mother board
to direction of arrow Ⓐ.

❼ eight screws
(SW) (No.6-32UNC)

Ⓐ

2-21. MAIN ELECTRIC PARTS ARRANGEMENT
(PCV-RX450/RX460)
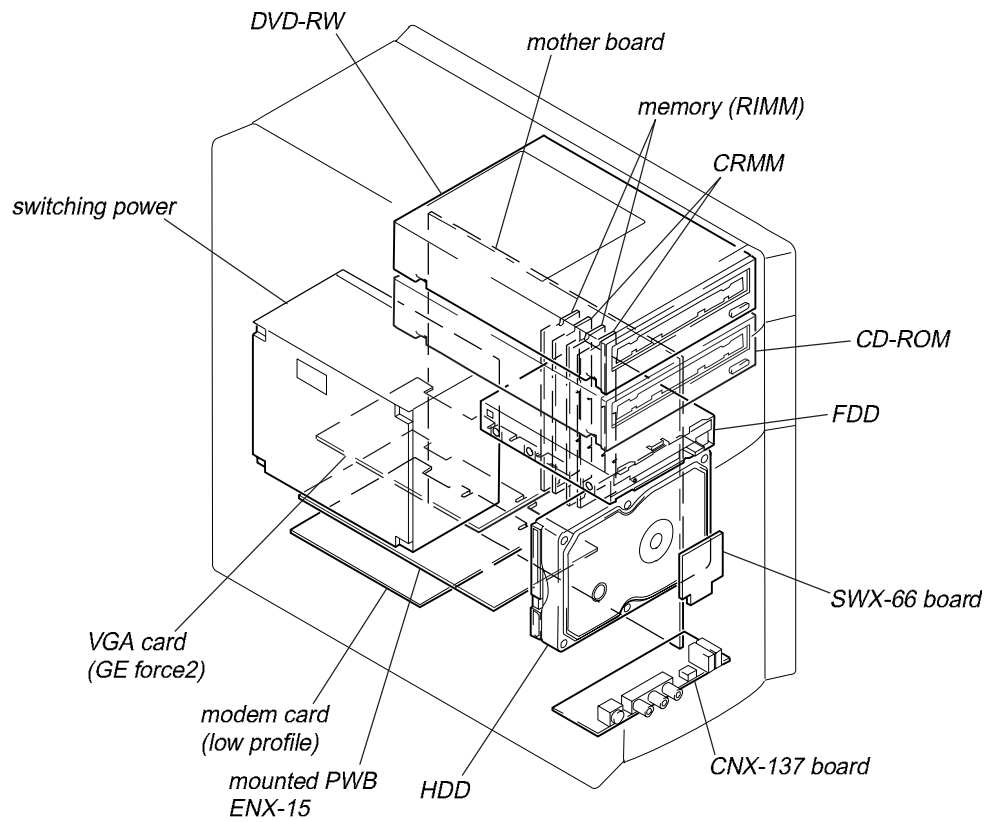

(PCV-RX470DS/RX480DS)

(PCV-RX490TV)

DVD-RW

mother board

memory (RIMM)

CRMM

switching power

CD-ROM

FDD

SWX-66 board

VGA card
(GE force2)

modem card
(low profile)

mounted PWB
ENX-15

HDD

CNX-137 board

3-1. MS-LE MOTHER BOARD (for PCV-RX450/RX460)

3-1-1 Overview

- Intel MicroATX version1.0 compatible
- Supports single socket A based AMD "Athlon/Duron" Processors
- SiS730 system controller with support up to 200MHz front side bus
- Two 168-pin DIMM sockets
- ITE IT8705F LPC I/F I/O controller
- Flash BIOS ROM support
- Onboard AC97 Ver2.1 Audio Codec
- Onboard iLink Controller
- Onboard 10BaseT/100BaseTX Controller
- Onboard SiS730 Internal Gfx and AGP 2.0 support (swappable use)
- Hardware monitoring support, FAN (CPU, SPS) control/monitor, Temp (CPU, Motherboard) sensor, Voltage (SPS, Vcore) monitor
- One AGP, Three PCI slots and NO ISA slot
- Suspend to RAM support (Wake up from Keyboard, Mouse, LAN, USB, Power button)
- Ultra DMA/100 support (host side detection)
- Keyboard/Mouse mixed signal (Notebook style)
- No Q-salt capacitors
- PC99 Compliant
- PCI 2.2 Compliant
- Windows Millennium Edition/Windows 2000/Whistler support

3-1-2 Hardware Description

Processor	AMD Athlon/Duron support, all speeds, voltages, 200MHz FSB
Chipset	SiS730
System RAM	64, 128, 256, 512 MB SDRAM x 2 Slots PC100/133 support, up to 1GB support
Super I/O	ITE IT8705F
System ROM	V29C51002T or equivalent
Audio	SiS730 Audio Controller + ADI AD1881A AC97 Codec
IEEE1394	Onboard TSB12LB26 + TSB41AB3 Three 1394 port (one for rear, two for internal)
LAN	Onboard Realtek 8100 10BaseT/100BaseTX support, Wake On LAN support
VGA	Onboard SiS730 Gfx
FDD	3.5 inch 720KB, 1.44MB, 2.88MB
IDE	Two IDE ports support PIO mode 0-4, Multiword DMA mode0-2, Ultra DMA mode 0-5, host side detection Bootable CD/DVD-ROM support
I/O	1 Serial ports 1 Parallel port (Bi-directional/EPP/ECP support) 6 USB ports (one for rear, tow for front and three for internal) 1 PS/2 key, 1 PS/2 mouse port (mixed signal, notebook style)
AGP	1 AGP Slot AGP 2.0 compliance, AGP 2x/4x support DVI daughter card for SiS730 Gfx support
PCI	3 PCI Slot PCI 2.2 compliance, 3.3VAUX support Bus master support for all slots Combo card (serial IRQ) support for PCI slot 3

3-1-3 Form Factor

Meet Intel MicroATX version 1.0 specification
- Maximum 9.6inches x 9.6 inches (244mmx244mm)
- Height restrictions of MicroATX version 1.0

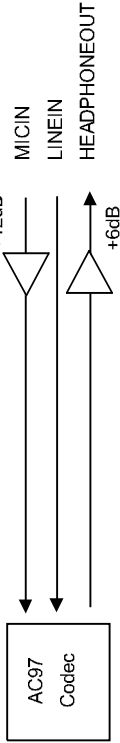|	Specs		Notes
Line In	1Vrms (typ) 2Vrms (max)		10k ohm impedance
Headphone out (Line out)	1.5 Vrms (max)		32 ohm load (drive headphone)
	2 Vrms (max)		10k ohm load
Mic In	0.1 Vrms (max)		Codec Boost Off

3-1-4 Connectors and Headers
- Single Socket A for Athlon/Duron processor connector, Heat sink grounding support
- Two 168pin DIMM socket
- ATX power supply power connector
- One FDD / Two IDE Connectors
- One AGP and Three PCI slots
- 4-pin CD-ROM audio input (stereo) connector
- 4-pin AUX audio input (stereo) connector
- 4-pin Video audio input (stereo) connector
- Two PS/2 connector (keyboard, mouse)
- Six USB port connector, 1 for rear w/ LAN connector, 2 for front, 3 for internal
- Ethernet Connector (w/ USB connector)
- One VGA connector
- Three IEEE1394 connector, 1 (6pin standard) for rear, 2 for headers
- One Parallel (25pin) connector
- One Serial (COM1, 9pin) connector
- Line In/Mic In/Headphone Out mini-jack (w/ serial connector)
- Front panel I/O header (Power/Sleep/HDD/LED2/Reset/Speaker)
- Two Cooling fan connectors, 1 for CPU, 1 for SPS
- Clear CMOS header (for BIOS)
- Wake on LAN header (including 5VSB)

3-1-5 Graphics
- SiS730 Gfx and AGP connector support (swappable use)
- Primary VGA function by BIOS
- SiS730 Gfx
  SiS730 chipset integrated graphics
- Soft DVD support
  DVI support
- AGP Graphics
  AGP 2.0 compliance, AGP 2x/4x support
  Support AGP connector with retention mechanism
  DVI daughter card for SiS730 Gfx support

3-1-6 Audio
- SiS730 Audio Controller + ADI AD1881A AC97 Codec
- Circuit for utilizing soft audio required
- External +12dB boost add for MIC IN input(Single Powered OP-amp required)
- +6dB boost with power amplifier add for HEADPHONE OUT (LM4880 or equivalent)
- Audio Quality meet PC99 specs
  D to A SNR +85dB, THD +65dB FSA
  A to D SNR +80dB, THD +60dB FSA
  A to A SNR +85dB, THD +55dB FSA (LINE IN to LINE OUT, 1kHz sine wave, 0dB=1Vrms)
  MIC SNR +75dB (-12kHz)
- EMI filters (or equivalent consideration) on HEADPHONE OUT/LINE IN/Line Out for FCC/VCCI
- Pop noise cancel function.
- Audio enable/disable control circuit and controlled by the BIOS.

3-1-7 IEEE 1394 OHCI
- Texas Instrument TSB41AB3 PHY
- Texas Instrument TSB12LV26 LINK
- Power provide +12V, 5W/port
- EMI filters (TOKO 857CM-009) on the IEEE1394 Front access header / Rear access option header / Rear connector for FCC/VCCI
- Selectable PHY power delivery for S3, S5 by mount option, and maximum current is 200mA
- IEEE1394 enable/disable control circuit and controlled by the BIOS

3-1-8 LAN
- Realtek RTL8100
- 10BaseT/100BaseTX, Auto-negotiation
- Wake-On-LAN function (S1, S3, S5)
- Selectable power delivery for S3, S5 by mount option
- LAN Connector mixed with USB style
- LAN enable/disable control circuit and controlled by BIOS

3-1-9 Other Key Components
- ITE IT8705F LPC Super I/O
- V29C51002T (or equivalent) DIP type Flash ROM with socket

3-1-10 BIOS
Refer to Sony BIOS document released separately for further details.
- Award 6.0 or later based
- Flash ROM, Upgradeable by user
- Sony customization (i.e. Sony logo during boot up)

3-1-11 Power Management
- APM 1.2
- ACPI Rev 1.0b, S0, S1, S3, S4, S5 power state support
- Resume event support by Keyboard, Mouse, USB, LAN and Power button (Refer to Sony BIOS document for the detail)
- Power Delivery

	1394 PHY	USB	Key & Mouse	LAN
S0	Yes	Yes	Yes	Yes
S1	Yes	Yes	Yes	Yes
S3	Yes	Yes	Yes	Yes
S5	Selectable (Mount option)	No	No	Selectable (Mount option)

AC97 Codec — +12dB — MICIN — LINEIN — +6dB — HEADPHONEOUT

3-1-12 PS2 Keyboard / Mouse

- Keyboard/Mouse mixed signal (notebook style)

3-1-13 Floppy Drive Support

- 720K/1.44MB/2.88 MB diskette drive support

3-1-14 CD-ROM / DVD-ROM Drive Support

- Bootable CD support

3-1-15 IDE Drive Support

- 2 channel (4 devices) support
- PIO mode 0-4, Multiword mode 0-2 support
- Ultra DMA mode 0-5 support, cable detect method (host method)

3-1-16 Main Memory

- 2 x 168pin DIMM sockets
- Support PC100/133 unbuffered 64-bit SDRAM 3.3V DIMMS

DIMM size	Configuration
32MB	4Mbit x 64
64MB	8Mbit x 64
128MB	16Mbit x 64
256MB	32Mbit x 64
512MB	64Mbit x 64

3-1-17 Battery Requirements

- Type 2032, 3V coin battery with socket on motherboard
- Battery life greater than 3 years on motherboard (without AC power supply)

3-1-18 Reliability

- MTBF over xxxx [TBD]

3-1-19 Mother Board Environment Specification

Parameter	Specification	Note
Temperature Non-operating	-40°C to +70°C	
Operating	0°C to +55°C	
Shock	[TBD]	
Vibration	[TBD]	

3-1-20 Power Supply / Consumption

The motherboard should meet the following power supply tolerance.-5V supply is not used in this motherboard (-5V connect only the voltage monitor circuit)

DC Voltage	Acceptable Tolerance
+3.3V	±5%
+5V	±5%
+5V STB	±5%
+12V	±5%
-12V	±10%

When installed in micro ATX chassis with SFX power supply, Athlon 1.2GHz, 128MB PC133 DIMM, 3.5-inch floppy drive, 60GB IDE hard drive, IDE DVD-ROM and CD-RW drive, and PCI MODEM card, the following table is provided as a guide for power consumption,

Mode	AC(watts) out of 120VAC Outlet
Windows ME desktop	[TBD]
Windows ME desktop, sleep mode (S1)	< 25W
Windows ME desktop, sleep mode (S3)	< 5W

3-1-21 WHQL

The motherboard must pass WHQL certifications when installed with appropriate peripherals, OS and driver.

3-1-22 Label Requirements

The motherboard should have a reserved area for the label or print.

- Product name
- Revision
- Sony parts number and serial number

3-1-23 Regulatory Compliance

The motherboard should be compliant with the following safety and EMI regulations when correctly installed in a micro ATX chassis.

3-1-23-1 Safety

Meet the following regulations.

3-1-23-1-1 UL
UL1950-CSA950-95
Reset table FUSE is requested for all I/O power lines

3-1-23-1-2 CSA
CSA C222 No.95-93

3-1-23-2 EMC

Meet the following regulations.

3-1-23-2-1 FCC Class B

3-1-23-2-2 VCCI Class B

3-2. WMT-LX MOTHER BOARD (for PCV-RX470DS/RX480DS/RX490TV)

3-2-1 Overview

This document describes the specification for the *WMT-LX* motherboard for PCV-RX470DS/RX480DS/RX490TV

- MicroATX version1.0 compatible
- PGA423 socket, Pentium4 (Willamet) support.
- Intel 850 + ICH2 chipset
- AGP interface specification revision 2.0 compliance (support 2x/4x)
- AGP Card retention support
- Hardware monitoring FAN (CPU,PS) speed monitor/CPU Temp/sensor/Voltage monitor
- Four 184-pin RIMM sockets (RDRAM, maximum 1024Mbytes NonECC)
- PC800/PC600
- LPC I/F I/O Controller
- One AGP, Three PCI slots and NO ISA slot
- On board Ethernet
- Suspend to RAM support (Wake up from Keyboard, LAN, USB, Power button)
- Ultra DMA/100 enable (can support Host-side Detection)
- On board IEEE1394 OHCI
- Header for Front accessible IEEE1394 connector.
- Header for Front-accessible USB connector.
- Keyboard/Mouse mixed signal (Notebook style)
- On board AC97 2.0 Codec Audio
- Flash BIOS (Firmware Hub)
- No Q-salt capacitors
- PC99 Compliant
- PCI 2.2
- Heat sink grounding support for CPU

3-2-2 Form Factor
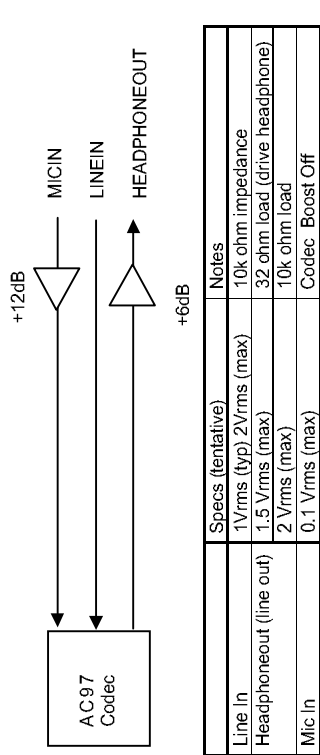
Meet Intel MicroATX version 1.0 specification

- maximum 9.6inches x 9.6 inches (244mmx244mm)
- height restrictions of MicroATX version 1.0

3-2-3 Connectors and Headers

- ATX power supply power connector with ATX12V, Power Supply Fan connector
- 1 FDD/2 IDE Connectors
- 4 184pin RIMM socket (gold plated)
- PGA423 socket
- 3 PCI slot and 1 AGP slot
- 4-pin CD-ROM audio input (stereo) connector
- 4-pin AUX audio input (stereo) connector
- 4-pin Video input (stereo) connector
- One IEEE1394 (6pin) standard interface connector, two headers
- 4 USB port connector (2 for rear I/O, 2 with header for Front accessible area)
- Power/Sleep/HDD/LED2/Reset/Speaker header (Front Panel I/O header)
- 1 Parallel (25pin) connector
- 1 Serial (COM1, 9pin) connector in rear I/O
- 2 PS2 connector (Keyboard, Mouse)
- 1 MIDI/Game connector
- SOFA (Paddle) connector
- Line In/Mic In/Headphone Out mini-jack
- 1Cooling Fan connector (CPU)
- Clear CMOS header (for BIOS)
- CPU Clock select (optional)
- Thermal measurement header
- Ethernet Connector

3-2-4 Audio

- AC97 codec
- Circuit for utilizing soft audio required
- external +12dB boost add for MIC IN input (Single Powered OP-amp required)
- +6dB boost with power amplifier add for HEADPHONE OUT (LM4880 or equivalent)
- Audio Quality meet PC99 specs (TENTATIVE)
  D to A SNR +85dB, THD +65dB FSA
  A to D SNR +80dB, THD +60dB FSA
  A to A SNR +85dB, THD +55dB FSA (LINE IN to LINE OUT, 1kHz sine wave, 0dB=1 Vrms)
  MIC   SNR +75dB (-12kHz)
- EMI filters (or equivalent consideration) on HEADPHONE OUT/LINE IN/GAME PORT for FCC/VCCI
- Pop noise cancel function.
- Audio enable/disable control circuit and controlled by the BIOS.

	Specs (tentative)	Notes
Line In	1Vrms (typ) 2Vrms (max)	10k ohm impedance
Headphoneout (line out)	1.5 Vrms (max)	32 ohm load (drive headphone)
	2 Vrms (max)	10k ohm load
Mic In	0.1 Vrms (max)	Codec Boost Off

3-2-5 AGP Graphics

- 2x/4x AGP interface
- use the universal connector
- Support the retention module
- AGP Interface Specification Rev 2.0 (From Intel)
- AGP Card Retention Specification rev 1.0 (From Intel)

3-2-6 IEEE 1394 OHCI

- Texas Instrument TSB41AB3 PHY (physical layer)
- Texas Instrument TSB12LV26 LINK (link layer)
- Power provide +12V, 5W/port
- EMI filters (TOKO 857CM-009) on the IEEE1394 Front access header/Rear access option header/Rear connector for FCC/VCCI
- IEEE1394 enable/disable control circuits and controlled by the BIOS.

• PHY power provided by the 3VSB_DUAL (S5) and maximum current is 200mA.

3-2-7 LAN

• Realtec RTL8139C
• Supports 10/100 Mb/s, Auto-negotiation
• Supports Wake-On-LAN function (S1, S3) ; selectable power delivery for S3, 5
• 10baseT Connector mixed with USB style

3-2-8 Other Key Components

• LPC SIO
• FWH (No Socket)

3-2-9 BIOS

Refer to Sony BIOS document released separately for further details.

• Award 6.0 or later based
• Flash ROM, Upgradable by user
• Sony customization (i.e Sony logo during boot up)

3-2-10 Power Management

• Suspend/Resume
  Supports S0, S1, S3, S4, S5
  Resume: Keyboard (programmable) , Mouse (programmable) , USB, LAN, and Power button)
  (Refer to Sony BIOS document)

• Power Delivery

	1394 PHY	USB (ICH&HUB&Port)	Keyboard Mouse	LAN
S3	Yes	Yes	Yes	Yes
S5	Yes	No	No	Yes

3-2-11 PS2 Keyboard/Mouse

• Keyboard/Mouse mixed signal (notebook style)

3-2-12 Floppy Drive Support

• 720K/1.2/1.44/2.88 MB diskette drive support

3-2-13 CD-ROM/DVD-ROM Drive Support

• Bootable CD support

3-2-14 IDE Drive Support

• 2 channel (4 devices) support through ICH
• Ultra DMA /100 support, cable detect method (host method)

3-2-15 Main Memory

• 4 x184pin RIMM sockets
• support PC800 unbuffered 64-bit SDRAM 3.3V DIMMS (single or double sided) below
• Maximun support 256MB (512MB support not validated)

RIMM size	Configuration
64MB	
128MB	
256MB	
512MB	

3-2-16 Battery Requirements

• Type 2032, 3V coin battery with socket on motherboard
• Battery life greater than 3 years on motherboard (without AC power supply)

3-2-17 Reliability

• MTBF over xxxx [TBD]

3-2-18 Mother Board Environment Specification

Parameter	Specification	Note
Temperature Non-operating	-40°C to +70°C	
Operating	0°C to +55°C	
Shock	[TBD]	
Vibration	[TBD]	

3-2-19 Power Supply/Consumption

The motherboard should meet the following power supply tolerance.
-5V supply is not used in this motherboard (-5V connect only the voltage monitor circuit)

DC Voltage	Acceptable Tolerance
+3.3V	±5%
+5V	±5%
+5V STB	±5%
+12V	±5%
-12V	±5%

When installed in micro ATX chassis with SFX power supply, Celeron466/66MHz, 64MB PC100 DI
MM, 3.5-inch floppy drive, 10GB IDE hard drive, 4X IDE DVD-ROM drive, and PCI MODEM card, t
he following table is provided as a guide for power consumption,

Mode	AC (watts) out of 120VAC Outlet
Windows ME desktop	[TBD]
Windows ME desktop, sleep mode (S1)	< 25W
Windows ME desktop, sleep mode (S3)	< 5W

3-2-20 WHQL

The motherboard must pass WHQL certifications when installed with appropriate peripherals , OS and driver.

3-2-21 Label Requirements

The motherboard should have a reserved area for the label or print.
- product name
- revision
- serial number

3-2-22 Regulatory Compliance

The motherboard should be compliant with the following safety and EMI regulations when correctly installed in a micro ATX chassis.

3-2-22-1 Safety
Meet the following regulations.

3-2-22-1-1 UL
UL1950-CSA950-95
Resettable FUSE is requested for all I/O power lines

3-2-22-1-2 CSA
CSA C222 No.95-93

3-2-22-2 EMC
Meet the following regulations.

3-2-22-2-1 FCC Class B

3-2-22-2-2 VCCI ClassB

SECTION 4
PROGRAM FOR SERVICE

4-1. General

The Diagnostic Programs for Service are available with the following three kinds.

1. PC-Doctor

This can test the Mother Board, CPU, Memory, FDD, HDD, and CD/DVD-ROM.

It is used for the PCV-RX52/RX62K/RX72K (J models) and PCV-RX450/RX460/RX470DS/RX480DS/RX490TV (US models).

2. SiS730 Video Diag

This can test the VGA (SiS730 Chipset built in).
It is used for the PCV-RX52 (J model) and PCV-RX450/RX460 (US model).

3. nVIDIA Video Diag

There are two types of diagnostic programs, one for the 16M memory Geforce used in the PCV-RX62K (J model)/RX470DS (US model), and the other for the 32M memory Geforce used in PCV-RX72K (J model)/RX480DS/RX490TV (US model).

4-2. PC-Doctor Starting Method

As the Diag. disc is a bootable CD, set the CD in the CD/DVD-ROM drive and turn the system power on.
The menu will be displayed, then select the following:
1. PC-Doctor for PCV-RX52/RX62K/RX72K/RX450/RX460/RX470DS/RX480DS/RX490TV
After the system started, set a DOS formatted 1.44M floppy disk without the write protection in the FDD, and the CD-ROM Disc in the CD-RW drive, select the model to be tested following the menu.
All tests are carried out automatically.
Do not remove the Diag. disc during the test.

4-2-1. Test Items

CPU/COPROCESSOR TEST
    The CPU/Coprocessor are tested.

MEMORY TEST
    The memory is tested.
    The bus throughput of the extended memory cannot be tested, and therefore N/A is displayed as the test result, but this is not a fault.

SYSTEM BOARD TEST
    The Mother Board is tested.
    Also, the keyboard and mouse are tested, thus requiring the keyboard and mouse to be connected to the set in advance.

SERIAL PORT TEST
    The COM port is tested.

PARALLEL PORT TEST
    The printer port is tested.

VIDEO ADAPTER TEST
    The video card is tested.
    Only the DOS legacy mode is tested.

FIXED DISK TEST
    HDD is tested.

DISKETTE TEST
    FDD is tested.
    As the read/write operation is performed to the floppy disk, set the DOS formatted 1.44M disk without the write protection before the PC-Doctor is started. Also, if the PC-Doctor is booted from the CD, the boot image of CD is treated as the floppy 0 (drive A), and accordingly the FDD is treated as the floppy 1 (drive B).
    In this case, the floppy 0 cannot be tested and N/A is displayed as the test result, but this is not a fault.

MISCELLANEOUS TEST
    Other devices are tested.
    CD/DVD-ROM read check, CPU type check, and configuration check of PCI device, etc. are executed.

4-2-2. Test Result

After the test finished, "PASSED" or "FAILED" is displayed.
In case of "FAILED" display, press the F1 key to display the log and then, check the faulty item.
Certain items cannot be tested and N/A is displayed, but this is not a fault.

Example of log file
PC-DOCTOR 2.0 SYSTEM TEST LOG
================================

Inventory.......................
  CPU MHz is too low (700 vs 750)
Inventory   FAILED

4-3. SiS730 Video Diag Starting Method

As the Diag. disc is a bootable CD, set the CD in the CD/DVD-ROM drive and turn the system power on.
The menu will be displayed, then select the following:
2. SiS730 Video Diag for PCV-RX52/RX450/RX460
After the system started, the file is automatically expanded on the RAM disk and the test starts.

4-3-1. Test Result

After the test finished, "PASS" or "FAIL" is displayed.
The contents of RAM disk are cleared when the power is turned off.

4-4. nVIDIA Geforce Video Diag Starting Method (For PCV-RX470DS)

As the Diag. disc is a bootable CD, set the CD in the CD/DVD-ROM drive and turn the system power on.
The menu will be displayed, then select the following:
3. nVIDIA Geforce 16M Diag for PCV-RX62K/RX470DS
After the system started, the file is automatically expanded on the RAM disk and the test starts.

4-4-1. Test Result

After the test finished, "PASS" or "FAIL" is displayed.
The contents of RAM disk are cleared when the power is turned off.

4-5. nVIDIA Geforce Video Diag Starting Method (For PCV-RX480DS/RX490TV)

As the Diag. disc is a bootable CD, set the CD in the CD/DVD-ROM drive and turn the system power on.
The menu will be displayed, then select the following:
4. nVIDIA Geforce 32M Diag for PCV-RX72K/RX480DS/RX490TV
After the system started, the file is automatically expanded on the RAM disk and the test starts.

4-5-1. Test Result

After the test finished, "PASS" or "FAIL" is displayed.
The contents of RAM disk are cleared when the power is turned off.

SECTION 5
SERVICE INFORMATION

5-1. JUMPER SETTING ON HARD DISK DRIVE

The hard disk drive of service parts can be used without changing factory jumper setting, when it was replaced for service.

Model	Part No.	Maker	Code	Capacity (formatted)
PCV-RX480DS/RX490TV	A-8049-313-A	Maxtor	98196H8	80 GB

Master/Slave selection
Jumper setting

J42 Factory Reserved
J44 Factory Reserved
J46 4092 Cylinder Limitation
J48 Cable Select
J50 Master/Slave

Configuration Jumper Settings

	Only drive in signal drive system	← Factory setting
	Master drive in dual drive system
	Slave drive in dual drive system
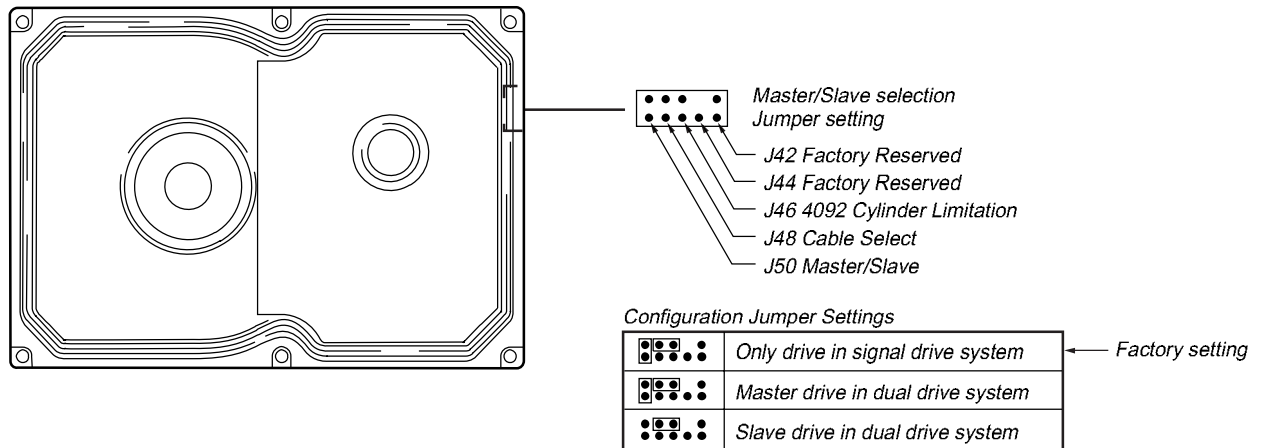
Model	Part No.	Maker	Code	Capacity (formatted)
PCV-RX460/RX470DS	A-8049-328-A	Quantum	Fireball AS60.0	60 GB

KEY DS CS PK

Master/Slave selection
Jumper setting

	Cable Select for Master/Slave (Factory default)	← Factory setting
	Master	← Used setting
	Slave (Jumper Packing Position)

∗ Change the jumper setting cable select. → Master

Model	Part No.	Maker	Code	Capacity (formatted)
PCV-RX450	A-8048-262-A	Seagate	ST340823A	40 GB

7   1
Master/Slave selection
Jumper setting
8   2

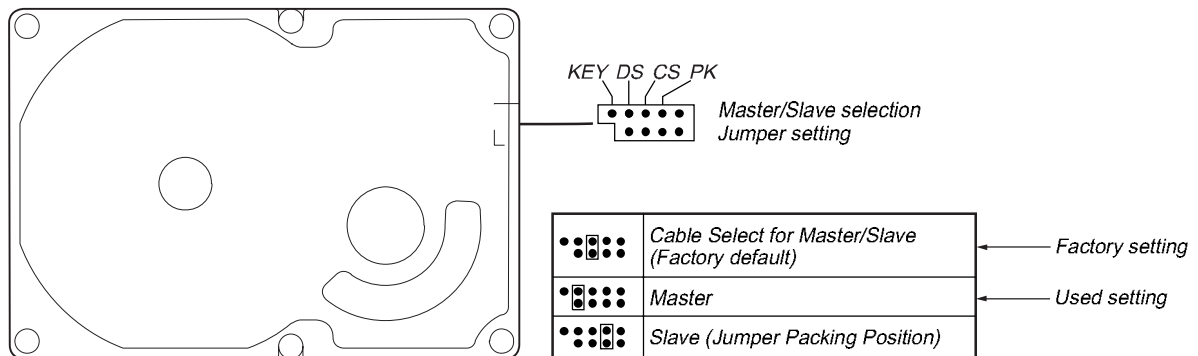|		
	Master or single drive	← Factory setting
	Drive is a slave	
	Master with a non-ATA compatible slave	
	Enable cable select	
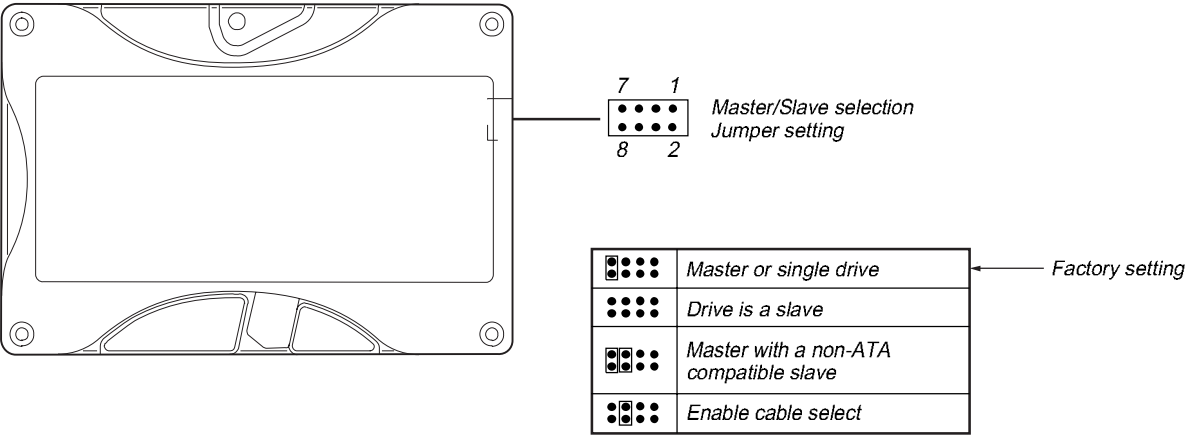
5-2. JUMPER SETTING OF MOTHER BOARD

The Mother board of service parts can be used without changing factory jumper setting, when it was replaced for service.

(for PCV-RX450/RX460)
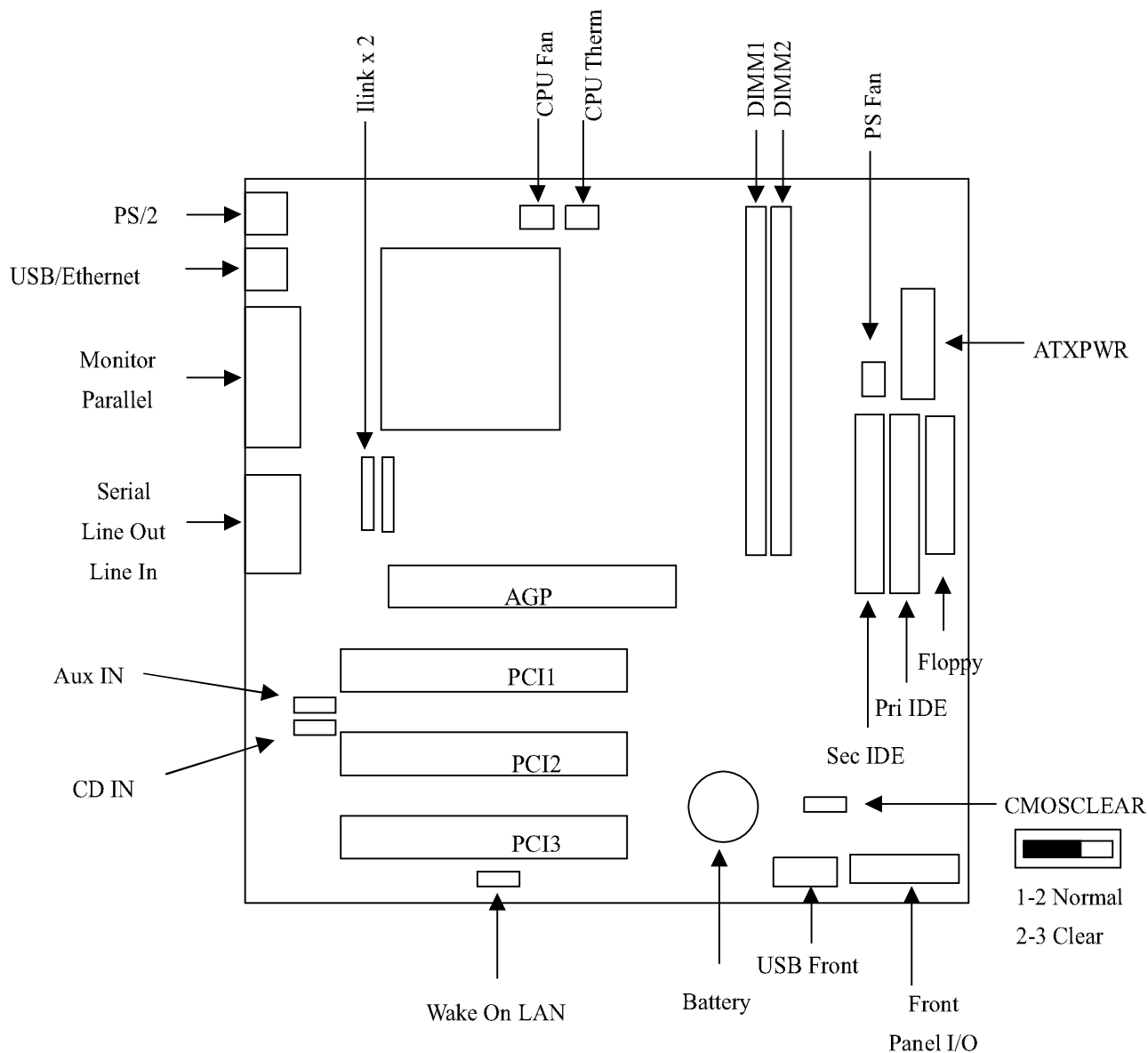
⚠ CAUTION

Do not change the jumper with the power turned on.
Before changing the jumper, turn off the power and disconnect the power cord from the set.

(for PCV-RX470DS/RX480DS/RX490TV)

llink x 2

CPU Fan

RIMM1
RIMM2
RIMM3
RIMM4

PS Fan

PS/2

USB/Ethernet → ATX12V

Serial
Parallel
i.LINK → ATXPWR

MIDI/GAME
Line Out
Line In
Microphone

AGP

Floppy

PCI1

Aux IN

PCI2

VIDEO

Pri IDE

PCI3

Sec IDE

CD IN

Battery

USB Front

Wake On LAN

Front
Pane l /O

3

1
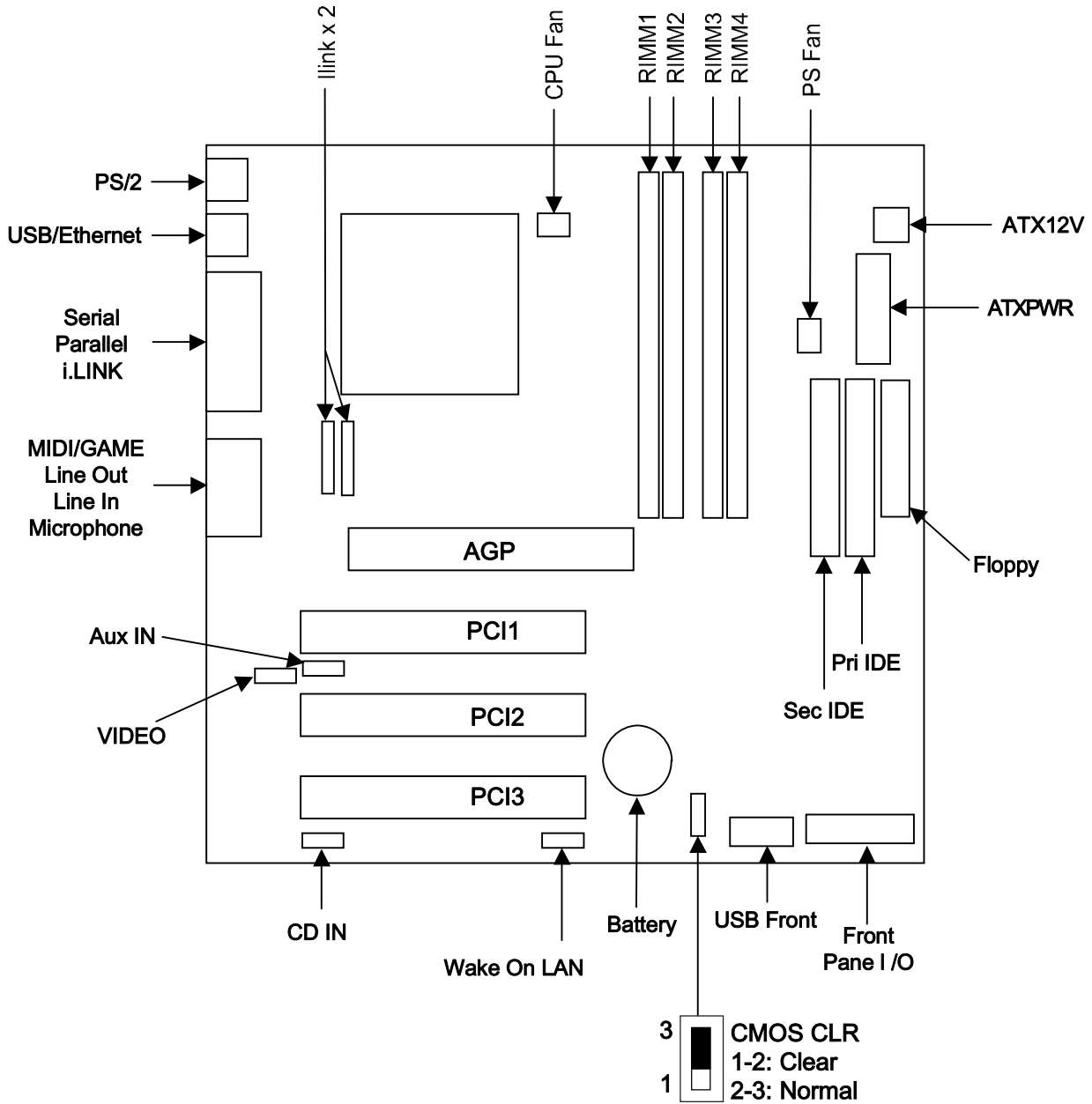
CMOS CLR
1-2: Clear
2-3: Normal

SECTION 6
FRAME HARNESS

6-1. CONNECTOR LIST
1. A7S-LE MOTHER BOARD (for PCV-RX450/RX460)

1-1 Internal connector

Power supply

20pin ATX type connector.

Connector location on MB	See the frame harness diagram

PS FAN

Support FAN control of power supply.

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Ground
2	FAN_CTRL (0V(S3) , 2V(S1), 12 V(S0))
3	FAN_SEN

The FAN_CTRL line is controlled by the BIOS and this line is voltage control line

IDE Primary/Secondary

For 3.5" Hard Drive, 40 pin Header (2.54mm standard type)

Connector location on MB	See the frame harness diagram

Host side detect Cable Type Using GPIOs

FDD

Connector location on MB	See the frame harness diagram

168pin DIMM socket x2

2 slot DIMM connector, 3.3V Unbuffered SDRAM

Connector location on MB	See the frame harness diagram

PGA423 socket

AMD Athlon/Duron supported

Connector location on MB	See the frame harness diagram

PCI Slot x3

Single Edge Contact PCI slot.

Connector location on MB	See the frame harness diagram

PCI #3 slot has special connection at A11 pin.
The serial IRQ signal connects to the A11 pin on the PCI #3.

AGP Slot

Single Edge Contact AGP slot. Universal AGP connector

Connector location on MB	See the frame harness diagram

CPU FAN

Supports CPU cooling fan of 500mA or less. Voltage = 12V

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Ground
2	FAN_CTRL (+12 V)
3	FAN_SEN

Wake On LAN (not installed*: PCV-RX450/RX460)

Support Wake On LAN function

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	+5Vsb
2	Ground
3	WOL signal

CD Audio

4 pin standard 2mm single line header for CD Audio signal input

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Left Line In
2	Ground
3	Ground
4	Right Line In

AUX Audio

4 pin standard 2mm single line header for AUX Audio signal input

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Left Line In
2	Ground
3	Ground
4	Right Line In

IEEE1394 access header x2

8 pin standard 2.5 mm single line header for IEEE1394 Front connector.

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Shell Ground
2	Ground
3	TPA
4	TPA*
5	TPB
6	TPB*
7	Ground
8	VP (Power)

VP line need over current protector. Raychem SMD150/33-2 or equivalent is used for that.

USB Front access header

12 pin standard 2.5mm Dual line Box header for Front USB connector.

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name	Pin	Signal Name
1	NC	2	NC
3	NC	4	NC (Key)
5	USB VCC1	6	USB VCC2
7	USBP2-	8	USBP3-
9	USBP2+	10	USBP3+
11	Ground	12	Ground

USBVCC2 and USBVCC3 line need the over current protector. Raychem miniSMDC110-2 or equivalent is used for that.

I/O header

20 pin standard 2.5mm dual line header for LED/Switch unit

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name	Pin	Signal Name
1	PWR_BTN	11	MSG_LED+
2	PWR_BTN_G	12	MSG_LED-
3	IDELED-	13	KEYLOCK
4	IDELED+	14	KEYLOCK_G
5	KEY	15	SMI
6	PWR_LEDL+	16	SMI_G
7	PWR_LED-	17	+5V
8	PWR_LEDB+	18	HD_LED2-
9	RESET	19	Ground
10	RESET G (GND)	20	SPKR

Battery Holder & Battery

Holder vender	LOTES B6615BP5L or equivalent
Holder location on MB	See the frame harness diagram
Battery vender	Sony CR2032 or equivalent

CPU thermal measurement header

This header is used for CPU thermal measurement.
This signal also routed to Super I/O for thermal monitoring.
2pin standard 2mm single line header for CPU thermal measurement

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	CPUTMPIN
2	GND

* Connectors mentioned (not installed) are not used even they are mounted on MB

1-2 External connector
Parallel

Connector location on MB	Rear side, see the frame harness diagram

IEEE1394 Rear connector

6 pin standard IEEE1394 Rear connector.

Connector location on MB	See the frame harness diagram

Pin assignments:

P n	Signal Name
1	VP (Power)
2	Ground
3	TPB*
4	TPB
5	TPA*
6	TPA

VP line need over current protector.
Raychem SMD150/33-2 or equivalent is used for that.

PS2 Keyboard/Mouse

Connector location on MB	Rear side, see the frame harness diagram

PS2VCC line needs the over current protector. Raychem miniSMDC110-2 or equivalent is used for that.

USB/LAN

One USB connector for external USB devices (Support the stacked connector).
One 10/100Base-T connector

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name	Pin	Signal Name
1	ACTLEDP	11	LANP8
2	ACTLEDN	12	LANP8
3	LILEDP	13	USBVCC1
4	LILEDN	14	USBP1-
5	TXPCON	15	UCBP+
6	TXNCON	16	GND
7	RXPCON	17	NC
8	LANP5	18	NC
9	LANP5	19	NC
10	RXNCON	20	NC

USBVCC1 line need the over current protector.
Raychem miniSMDC110-2 or equivalent is used for that.

COM1 Port/Line Out/Line In/Microphone Jack

Connector location on MB	Rear side, see the frame harness diagram

1-3 Jumper Header

CMOS Clear

Clear the RTC data

Connector location on MB	See the frame harness diagram

Jumper header
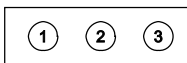
Combination of jumper caps:

	CMOSCLR	RBT_EN	SAFE_EN
1-2	Normal	Reboot Disabled	Safe Mode Enabled
2-3	Clear	Normal	Normal

* Connectors mentioned (not installed) are not used even they are mounted on MB

2. WMT-LE MOTHER BOARD (for PCV-RX470DS/RX480DS/RX490TV)

1-1 Internal connector

ATXPWR

20pin ATX type connector.

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	+3.3 V
2	+3.3 V
3	Ground
4	+5 V
5	Ground
6	+5 V
7	Ground
8	PWRGD (Power Good)
9	+5 VSB
10	+12 V
11	+3.3 V
12	-12 V
13	Ground
14	PS-ON# (power supply remote on/off control)
15	Ground
16	Ground
17	Ground
18	No Connection
19	+5 V
20	+5 V

4pin ATX12V type connector.

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

PS FAN

Support FAN control of power supply.

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Ground
2	FAN_CTRL (0V(S3) , 2V(S1), 12 V(S0))
3	FAN_SEN

The FAN_CTRL line is controlled by the BIOS and this line is voltage control line

IDE Primary / Secondary

For 3.5" Hard Drive, 40 pin Header (2.54mm standard type)

Connector location on MB	See the frame harness diagram

Host side detect Cable Type Using GPIOs

FLOPPY

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name	Pin	Signal Name
1	Ground	2	HDsel
3	Ground	4	N.C.
5	Ground	6	DRIVE_SELECT_#3
7	Ground	8	INDEX
9	Ground	10	DRIVE_SELECT_#0
11	Ground	12	DRIVE_SELECT_#1
13	Ground	14	DRIVE_SELECT_#2
15	Ground	16	N.C.
17	Ground	18	DIRECTION#
19	Ground	20	STEP#
21	Ground	22	WRITE_DATA#
23	Ground	24	WRITE_GATE#
25	Ground	26	TRACK_00#
27	Ground	28	WRITE_PROTECT#
29	N.C.	30	READ_DATA#
31	Ground	32	SIDE_1_SELECT#
33	N.C.	34	DSKCHG#

--NOTE--

'HDsel' signal is sent form drive. It indicate 2HD(when High) or 2DD(when Low) media.

'MODE_SELECT#' is control signal of disk rotation speed. When this signal is High, Media rotates 300RPM (2MB). When Low, media rotates 360RPM(1.6MB).

184pin RIMM socket x4

4 slot RIMM connector, 2.5V Unbuffered RDRAMM

Connector location on MB	See the frame harness diagram

PGA423 socket

Pentium4 supported

Connector location on MB	See the frame harness diagram

PCI Slot x3

Single Edge Contact PCI slot.

Connector location on MB	See the frame harness diagram

-12V	B1	A1	TRST#	AD[17]	B32	A32	AD[16]
TCK	B2	A2	+12V	C/BE[2]#	B33	A33	+3.3V
Ground	B3	A3	TMS	Ground	B34	A34	FRAME#
TDO	B4	A4	TDI	IRDY#	B35	A35	Ground
+5V	B5	A5	+5V	+3.3V	B36	A36	TRDY#
+5V	B6	A6	INTA#	DEVSEL#	B37	A37	Ground
INTB#	B7	A7	INTC#	Ground	B38	A38	STOP#
INTD#	B8	A8	+5V	LOCK#	B39	A39	+3.3V
PRSNT1#	B9	A9	Reserved	PERR#	B40	A40	Reserved
Reserved	B10	A10	+5V	+3.3V	B41	A41	Reserved
PRSNT2#	B11	A11	*Reserved	SERR#	B42	A42	Ground
Ground	B12	A12	Ground	+3.3V	B43	A43	PAR
Ground	B13	A13	Ground	C/BE[1]#	B44	A44	AD[15]
Reserved	B14	A14	Reserved	AD[14]	B45	A45	+3.3V
Ground	B15	A15	RST#	Ground	B46	A46	AD[13]
CLK	B16	A16	+5V	AD[12]	B47	A47	AD[11]
Ground	B17	A17	GNT#	AD[10]	B48	A48	Ground
REQ#	B18	A18	Ground	Ground	B49	A49	AD[09]
+5V	B19	A19	Reserved	Key	B50	A50	Key
AD[31]	B20	A20	AD[30]	Key	B51	A51	Key
AD[29]	B21	A21	+3.3V	AD[08]	B52	A52	C/BE[0]#
Ground	B22	A22	AD[28]	AD[07]	B53	A53	+3.3V
AD[27]	B23	A23	AD[26]	+3.3V	B54	A54	AD[06]
AD[25]	B24	A24	Ground	AD[05]	B55	A55	AD[04]
+3.3V	B25	A25	AD[24]	AD[03]	B56	A56	Ground
C/BE[3]#	B26	A26	IDSEL	Ground	B57	A57	AD[02]
AD[23]	B27	A27	+3.3V	AD[01]	B58	A58	AD[00]
Ground	B28	A28	AD[22]	+5V	B59	A59	+5V
AD[21]	B29	A29	AD[20]	ACK64#	B60	A60	REQ64#
AD[19]	B30	A30	Ground	+5V	B61	A61	+5V
+3.3V	B31	A31	AD[18]	+5V	B62	A62	+5V

PCI #3 slot has special connection at A11 pin.
The serial IRQ signal connects to the A11 pin on the PCI #3.

AGP Slot

Single Edge Contact AGP slot. Universal AGP connector

Connector location on MB	See the frame harness diagram

CPU FAN

Supports CPU cooling fan of 500mA or less. Voltage = 12V

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Ground
2	FAN_CTRL (+12 V)
3	FAN_SEN

CD IN

4 pin standard 2mm single line header for CD Audio signal input

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Left Line In
2	Ground
3	Ground
4	Right Line In

AUX IN (not installed*)

4 pin standard 2mm single line header for AUX Audio signal input

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Left Line In
2	Ground
3	Ground
4	Right Line In

Video (not installed*)

4 pin standard 2mm single line header for Video Audio signal input

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Video_L
2	Ground
3	Ground
4	Video_R

IEEE1394 header x2

8 pin standard 2.5 mm single line header for IEEE1394 Front connector.

IEEE1394 Front access header

Connector location on MB	Refered as 1394HEAD3 See the frame harness diagram

IEEE1394 Optional header (not installed*)

Connector location on MB	Refered as 1394HEAD2 See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Shell Ground
2	Ground
3	TPA
4	TPA*
5	TPB
6	TPB*
7	Ground
8	VP (Power)

VP line need over current protector. Raychem SMD150/33-2 or equivalent is used for that.

USB Front

12 pin standard 2.5mm Dual line Box header for Front USB connector.

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name	Pin	Signal Name
1	+3V_Dual	2	NP1#
3	NP3#	4	NC (Key)
5	USB VCC1	6	USB VCC2
7	LP2+	8	LP3+
9	LP2-	10	LP3-
11	Ground	12	Ground

USBVCC2 line needs the over current protector.

Raychem miniSMDC110-2 or equivalent is used for that.

FRONT PANEL I/O

20 pin standard 2.5mm dual line header for LED/Switch unit

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name	Pin	Signal Name
1	PWR_BTN	11	MSG_LED+
2	PWR_BTN_G	12	MSG_LED-
3	IDELED-	13	KEYLOCK
4	IDELED+	14	KEYLOCK_G
5	KEY	15	SMI
6	PWR_LEDL+	16	SMI_G
7	PWR_LED-	17	+5V
8	PWR_LEDB+	18	HD_LED2-
9	RESET	19	Ground
10	RESET G (GND)	20	SPKR

Battery Holder & Battery

Holder vender	LOTES B6615BP5L or equivalent
Holder location on MB	See the frame harness diagram
Battery vender	Sony CR2032 or equivalent

1-2 External connector

Parallel

Connector location on MB	Rear side, See the frame harness diagram

Pin assignments:

Pin	Signal Name	Pin	Signal Name
1	Strobe#	14	Auto Feed#
2	Data bit 0	15	Fault#
3	Data bit 1	16	INIT#
4	Data bit 2	17	SLCT IN#
5	Data bit 3	18	Ground
6	Data bit 4	19	Ground
7	Data bit 5	20	Ground
8	Data bit 6	21	Ground
9	Data bit 7	22	Ground
10	ACK#	23	Ground
11	Busy	24	Ground
12	Error	25	Ground
13	Select		

* Connectors mentioned (not installed) are not used even they are mounted on MB

Confidential

IEEE1394 Rear connector

6 pin standard IEEE1394 Rear connector.

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	VP (Power)
2	Ground
3	TPB*
4	TPB
5	TPA*
6	TPA

VP line need over current protector.

Raychem SMD150/33-2 or equivalent is used for that.

PS2 Keyboard /Mouse

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	Keyboard Data
2	Mouse Data
3	Ground
4	PS2VCC
5	Keyboard Clock
6	Mouse Clock
7	Mouse Data
8	N.C.
9	Ground
10	PS2VCC
11	N.C.
12	Mouse Clock

PS2VCC line needs the over current protector. Raychem miniSMDC110-2 or equivalent is used for that.

USB/LAN

Two USB connector for external USB devices. (Support the stacked connector)

One 10/100Base-T connector

Connector location on MB	See the frame harness diagram

Pin assignments:

Pin	Signal Name
1	USBVCC1
2	USBP0#
3	USBP0
4	Ground
5	USBVCC2
6	USBP1#
7	USBP1
8	Ground
9	
10	
11	
12	
13	
14	
15	
16	

USBVCC1/USBVCC2 lines need the over current protector.

Raychem miniSMDC110-2 or equivalent is used for that.

Game/Line Out/Line In/Microphone Jack

Connector location on MB	Rear side, See the frame harness diagram

Game port pin assignments:

Pin	Signal Name
1	GAMEVCC
2	JPYB0
3	JOYA0
4	GND
5	GND
6	JOYA1
7	JOYB1
8	GAMEVCC
9	GAMEVCC
10	JOYB2
11	JOYA2
12	MIDI_TxD
13	JOYA3
14	JOYB3
15	MIDI_RxD

Line Out pin assignments:

Pin	Signal Name
Sleeve	Ground
Tip	Audio Left Out
Ring	Audio Right Out

Line In pin assignments:

Pin	Signal Name
Sleeve	Ground
Tip	Audio Left In
Ring	Audio Right In

Microphone In pin assignments:

Pin	Signal Name
Sleeve	Ground
Tip	Microphone mono In
Ring	Electret Bias Voltage

GAMEVCC line need the over current protector.

Raychem miniSMDC110-2 or equivalent is used for that.

1-3 **Jumper Header**

CMOS Clear

Clear the RTC data

Connector location on MB	See the frame harness diagram

Jumper header
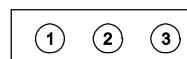
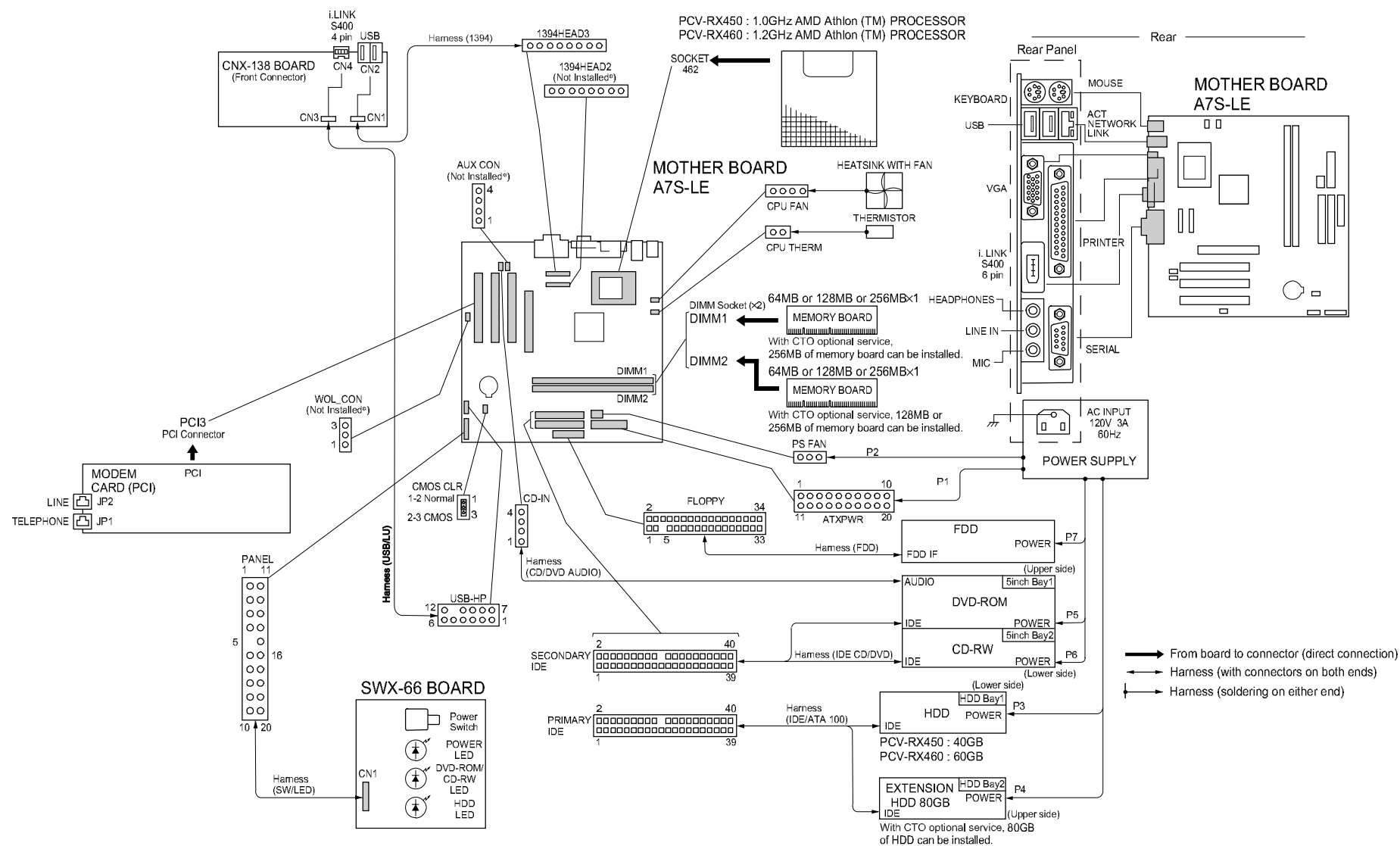Combination of jumper caps:

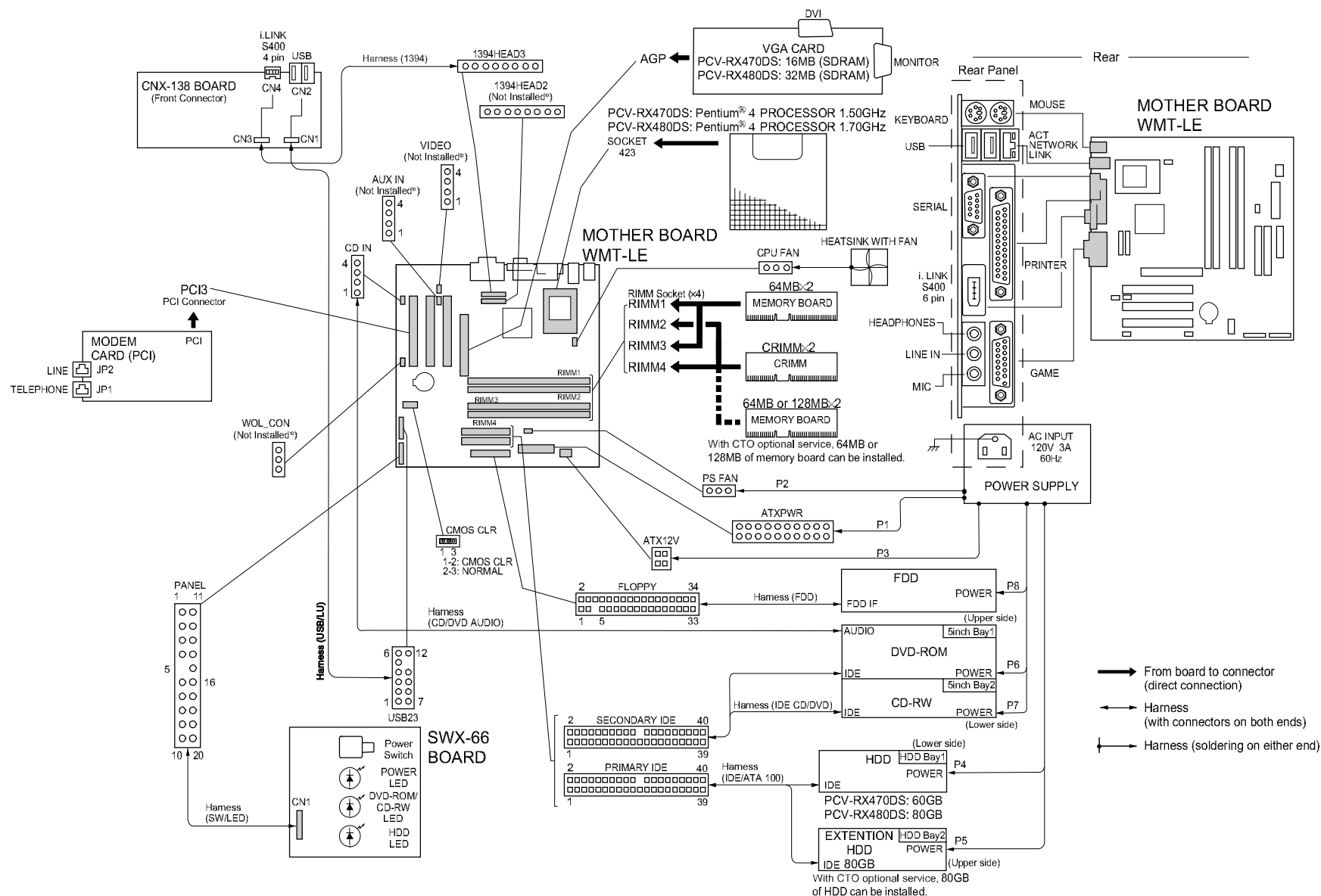|	CMOSCLR
1-2	Clear
2-3	Normal

Confidential

MEMO

6-2. FRAME HARNESS DIAGRAM (for PCV-RX450/RX460)

* Connectors mentioned (not installed) are not used even they are mounted on MB.

Confidential

* Connectors mentioned (not installed) are not used even they are mounted on MB.

DVI

VGA CARD
PCV-RX470DS: 16MB (SDRAM)
PCV-RX480DS: 32MB (SDRAM)

MONITOR

AGP

i.LINK
S400
4 pin   USB

CNX-138 BOARD
(Front Connector)

CN4   CN2

CN3   CN1

Harness (1394)

1394HEAD3

1394HEAD2
(Not Installed*)

Rear Panel

Rear

MOTHER BOARD
WMT-LE

KEYBOARD

MOUSE

USB

ACT
NETWORK
LINK

PCV-RX470DS: Pentium® 4 PROCESSOR 1.50GHz
PCV-RX480DS: Pentium® 4 PROCESSOR 1.70GHz

SOCKET
423

VIDEO
(Not Installed*)

AUX IN
(Not Installed*)

SERIAL

PRINTER

i. LINK
S400
6 pin

CD IN

MOTHER BOARD
WMT-LE

CPU FAN

HEATSINK WITH FAN

HEADPHONES

PCI3
PCI Connector

RIMM Socket (x4)
RIMM1
RIMM2
RIMM3
RIMM4

64MB×2
MEMORY BOARD

LINE IN

MODEM
CARD (PCI)   PCI

LINE   JP2

TELEPHONE   JP1

CRIMM×2
CRIMM

MIC

GAME

RIMM1

WOL_CON
(Not Installed*)

RIMM3   RIMM2

RIMM4

64MB or 128MB×2
MEMORY BOARD
With CTO optional service, 64MB or
128MB of memory board can be installed.

AC INPUT
120V 3A
60Hz

PS FAN   P2

POWER SUPPLY

CMOS CLR
1   3
1-2: CMOS CLR
2-3: NORMAL

ATX12V

ATXPWR   P1

P3

PANEL
1   11

5   16

10   20

Harness
(USB/LU)

Harness
(CD/DVD AUDIO)

2   FLOPPY   34

1   5   33

Harness (FDD)

FDD IF

FDD

POWER   P8

(Upper side)

AUDIO   5inch Bay1

DVD-ROM

POWER   P6

6   12

1   7

USB23

SWX-66
BOARD

Power
Switch

POWER
LED

DVD-ROM/
CD-RW
LED

HDD
LED

IDE   5inch Bay2

CD-RW

POWER   P7

(Lower side)

Harness (IDE CD/DVD)

IDE

2   SECONDARY IDE   40

1   39

(Lower side)

HDD   HDD Bay1

POWER   P4

2   PRIMARY IDE   40

1   39

Harness
(IDE/ATA 100)

IDE
PCV-RX470DS: 60GB
PCV-RX480DS: 80GB

EXTENTION   HDD Bay2
HDD   POWER   P5

IDE 80GB   (Upper side)
With CTO optional service, 80GB
of HDD can be installed.

CN1

Harness
(SW/LED)

From board to connector
(direct connection)

Harness
(with connectors on both ends)

Harness (soldering on either end)

(for PCV-RX490TV)

* Connectors mentioned (not installed) are not used even they are mounted on MB.

VIDEO 2 INPUT

S VIDEO VIDEO
L LINE R

i.LINK S400 4 pin
USB

CNX-137 BOARD (Front Connector)
CN3
CN7
CN6 CN11
CN5 CN4 CN1

Harness (AUDIO)

Harness (1394)

1394HEAD3
1394HEAD2 (Not Installed *)

AGP

DVI
VGA CARD 32MB (SDRAM)
MONITOR

Rear Panel
Rear

MOTHER BOARD WMT-LE

KEYBOARD MOUSE
USB
ACT NETWORK LINK

SERIAL

PRINTER

i. LINK S400 6 pin

Harness (AUDIO)

ENX-15 BOARD
CN1 CN2 CN3 CN4 CN6
CN9 CN8
CD IN
4
1

AUX IN
4
1

VIDEO (Not Installed*)
4
1

Pentium® 4 PROCESSOR 1.7GHz

SOCKET 423

MOTHER BOARD WMT-LE

CPU FAN
HEATSINK WITH FAN

HEADPHONES
LINE IN
MIC
GAME

VIDEO OUTPUT VIDEO 1 INPUT VHF/UHF
AUDIO S VIDEO/ VIDEO AUDIO S VIDEO/ VIDEO

PCI

PCI2

RIMM Socket (x4)
RIMM1
RIMM2
RIMM3
RIMM4

64MB×2
MEMORY BOARD

CRIMM×2
CRIMM

64MB or 128MB×2
MEMORY BOARD

With CTO optional service, 64MB or 128MB of memory board can be installed.

RIMM1
RIMM3 RIMM2
RIMM4

PCI3
PCI Connector

WOL_CON (Not Installed*)

MODEM CARD PCI
LINE JP2
TELEPHONE JP1

PS FAN P2
ATXPWR P1
ATX12V P3

AC INPUT 120V 3A 60Hz

POWER SUPPLY

CMOS CLR
1 3
1-2: CMOS CLR
2-3: NORMAL

FRONT PANEL I/O
1 11
5
16
10 20

Harness (USB/LU)

Harness (CD/DVD AUDIO)

2 FLOPPY 34
1 5 33

Harness (FDD)

FDD IF

FDD POWER P8
(Upper side)

AUDIO 5inch Bay1
DVD-RW
IDE POWER P6
5inch Bay2
CD-ROM
IDE POWER P7
(Lower side)

Harness (IDE CD/DVD)

6 12
USB FRONT
1 7

SWX-66 BOARD
Power Switch
POWER LED
DVD-RW/ CD-ROM LED
HDD LED

CN1

Harness (SW/LED)

2 SECONDARY IDE 40
1 39

2 PRIMARY IDE 40
1 39

Harness (IDE/ATA 100)

(Lower side)
HDD 80GB HDD Bay1 POWER P4
IDE

EXTENTION HDD 80GB HDD Bay2 POWER P5
IDE
(Upper side)

With CTO optional service, 80GB of HDD can be installed.

From board to connector (direct connection)
Harness (with connectors on both ends)
Harness (soldering on either end)
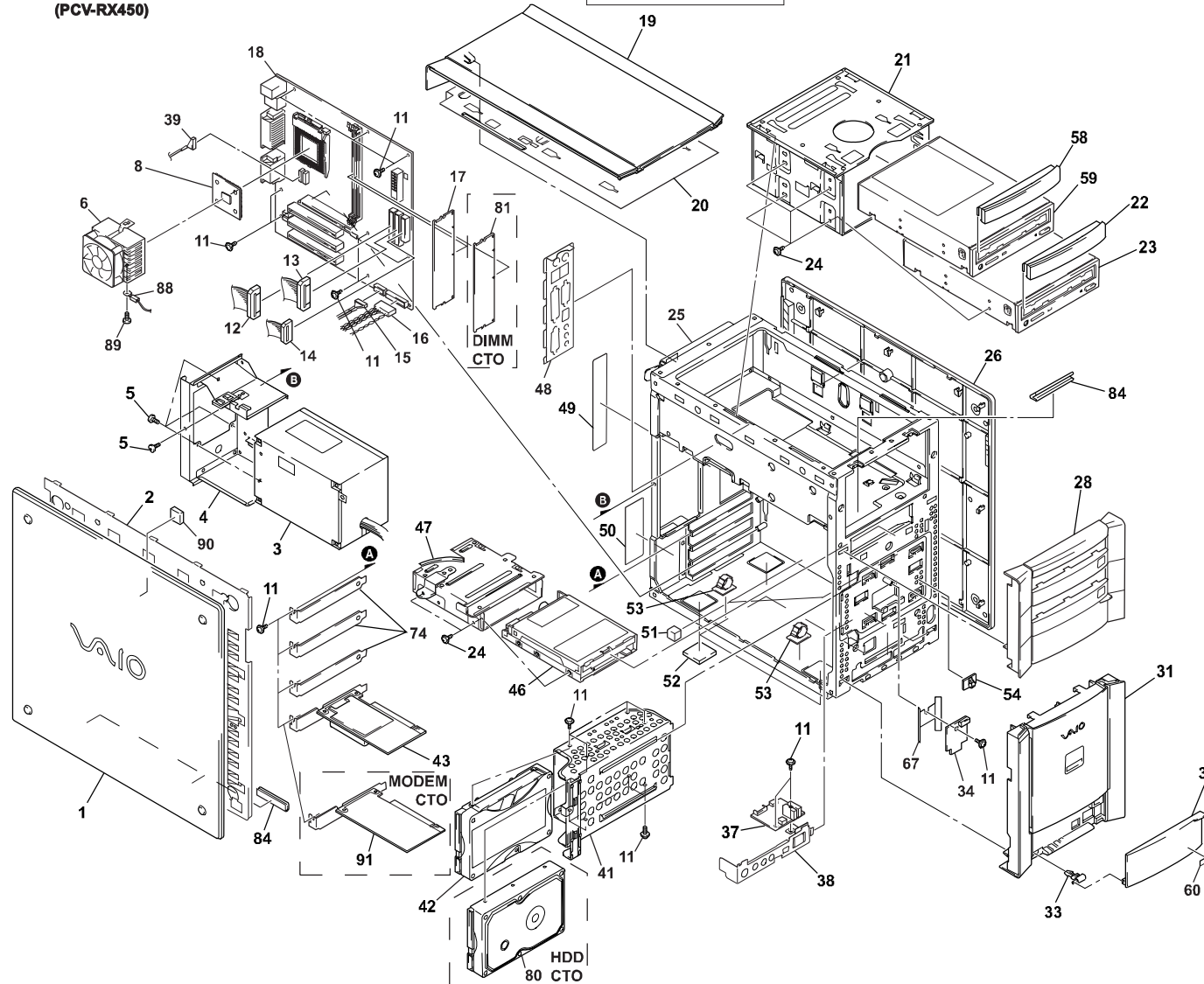
SECTION 7
REPAIR PARTS LIST

NOTE:
- The parts listed here are for service, and therefore they may be different from the parts shown in circuit diagrams or used in the set.
- The category "O" in S/P column denotes that the parts are not always stocked.
- The parts with ♦ marking are stocked at the Division.

7-1. EXPLODED VIEWS AND PARTS LIST (PCV-RX450)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

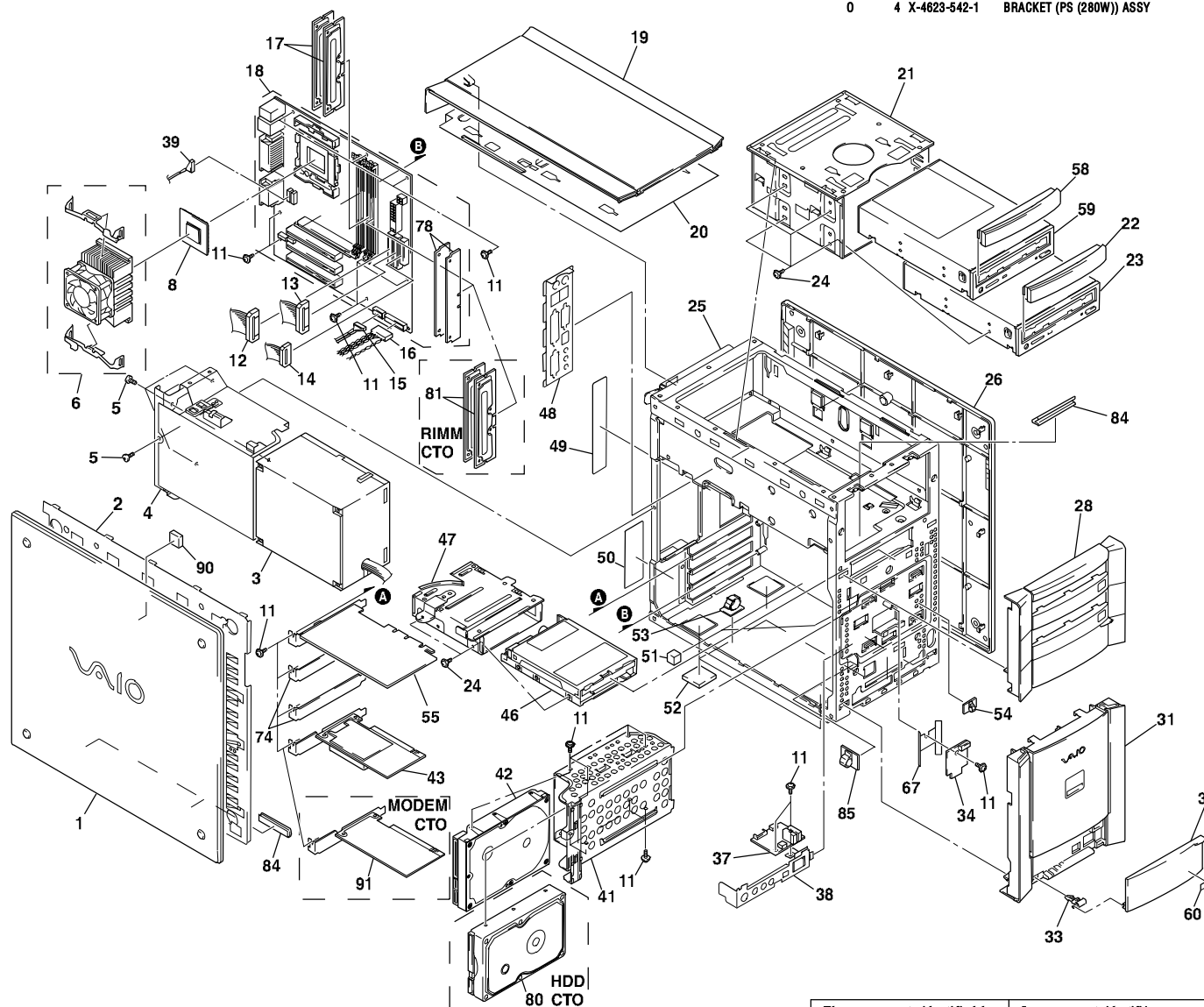| S/P	Ref. No.	Part No.	Description	Remark
S	1	4-648-912-21	PANEL, LEFT	
O	2	X-4623-012-1	LEFT CHASSIS ASSY	
⚠S	3	1-468-417-71	POWER, SWITCHING	
O	4	X-4623-019-1	BRACKET POWER SUPPLY ASSY	
S	5	4-635-795-01	SCREW (NO.6-32UNC)	
S	6	1-763-722-12	FAN, DC (WITH HEAT SINK)	
S	♦8	A-8025-157-A	CPU (A1000/AMT3B) ASSY (S)	
S	11	4-645-944-01	SCREW (SW) (NO.6-32UNC)	
S	12	1-959-912-31	HARNESS (IDE CD/DVD)	
S	13	1-960-364-31	HARNESS (IDE/ATA100)	
S	14	1-959-946-41	HARNESS (FDD)	
S	15	1-960-947-31	HARNESS (USB/LUKE)	
S	16	1-959-913-21	HARNESS (SW/LED)	
S	17	8-749-018-02	DIMM 128MB (MC-4516CB647PF-A75)	
S	17	8-749-018-53	DIMM 64MB (MT4LSDT864AG-133B1)	
S	♦18	A-8025-156-A	MOTHER BOARD (MA) ASSY (S)	
S	19	4-648-911-21	PANEL, TOP	
O	20	4-648-889-01	UPPER CHASSIS	
O	21	X-4623-008-1	CD HOLDER ASSY	
S	22	4-648-882-41	ESCUTCHEON (S)	
S	♦23	A-8049-315-A	CD-RW DRIVE (160E-T3MM) ASSY (S)	
S	24	7-682-903-01	SCREW +PWH 3X5	
O	25	X-4623-521-1	CHASSIS ASSY, MAIN	
S	26	4-648-910-21	PANEL, RIGHT	
S	28	A-8025-102-A	PANEL ASSY (UPPER) (for 2 BAY)	
S	31	A-8025-106-A	PANEL ASSY (LOWER) (U)	
S	32	X-4623-844-1	AUDIO ASSY (U), DOOR	
S	33	4-045-250-21	DAMPER	
S	♦34	1-761-387-11	BOARD, SWX-66	
S	♦37	1-681-235-11	BOARD, CNX-138	
O	38	X-4623-522-1	BRACKET AV ASSY	
S	39	1-959-197-21	HARNESS (1394)	
O	41	X-4623-010-2	BRACKET ASSY, HDD	
S	♦42	A-8048-262-A	HDD/S-U5 (40GB) ASSY (S)	
S	43	1-761-430-11	MODEM CARD (LOW PROFILE)	
S	♦46	1-772-251-41	FDD	
O	47	X-4623-520-1	BRACKET ASSY, FDD	
S	48	X-4623-735-1	BRACKET (ATX) ASSY (AMD)	
O	49	4-654-833-01	LABEL, I/O	
O	50	4-654-817-01	LABEL, SLOT	
O	51	4-650-918-11	SPACER, MB	
S	52	4-643-547-01	FOOT	
O	53	4-640-554-11	CABLE CLAMP	
O	54	4-640-554-21	CABLE CLAMP	
S	58	4-648-913-11	ESCUTCHEON (P)	
S	♦59	1-796-084-11	DVD-ROM/P-G6TR (16X)	
O	60	4-654-738-01	LABEL, ID	
O	67	4-651-252-01	SHIELD, LED	
S	74	4-650-779-01	PANEL, PCI SLOT	
S	♦80	A-8049-313-A	HDD/M-LEO (80GB) ASSY (S) for CTO Option	
S	81	8-749-018-19	DIMM 256MB (MC-4532CD647PF-A75) for CTO Option	
S	81	8-749-018-02	DIMM 128MB (MC-4516CB647PF-A75) for CTO Option	
O	84	4-078-636-01	GASKET (A)	
S	88	1-804-502-11	THERMISTOR	
S	89	7-682-647-01	+PS 3X6	
O	90	4-656-049-01	SPACER, LEFT PANEL	
S	♦91	1-761-444-11	CARD, MODEM for CTO Option	
O		7-300-000-40	SILICON COMPOUND (G-765) 90G * Used on replacing CPU, heat sink. (Refer to page 2-14)	

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7-2. EXPLODED VIEWS AND PARTS LIST
(PCV-RX460)

S/P	Ref. No.	Part No.	Description	Remark
S	1	4-648-912-31	PANEL, LEFT	
O	2	X-4623-012-1	LEFT CHASSIS ASSY	
⚠S	3	1-468-601-13	POWER UNIT	
⚠S	3	1-468-601-23	POWER UNIT	
O	4	X-4623-542-1	BRACKET (PS (280W)) ASSY	
S	5	4-635-795-01	SCREW (NO.6-32UNC)	
S	6	1-763-722-12	FAN, DC (WITH HEAT SINK)	
S	♦8	A-8025-241-A	CPU (A1200/AMS3B) ASSY (S)	
S	11	4-645-944-01	SCREW (SW) (NO.6-32UNC)	
S	12	1-959-912-31	HARNESS (IDE CD/DVD)	
S	13	1-960-364-31	HARNESS (IDE/ATA100)	
S	14	1-959-946-41	HARNESS (FDD)	
S	15	1-960-947-31	HARNESS (USB/LUKE)	
S	16	1-959-913-21	HARNESS (SW/LED)	
S	17	8-749-018-02	DIMM 128MB (MC-4516CB647PF-A75)	
S	♦18	A-8025-156-A	MOTHER BOARD (MA) ASSY (S)	
S	19	4-648-911-31	PANEL, TOP	
S	20	4-648-889-01	UPPER CHASSIS	
O	21	X-4623-008-1	CD HOLDER ASSY	
S	22	4-648-882-31	ESCUTCHEON (S)	
S	♦23	A-8049-315-A	CD-RW DRIVE (160E-T3MM) ASSY (S)	
S	24	7-682-903-01	SCREW +PWH 3X5	
O	25	X-4623-521-1	CHASSIS ASSY, MAIN	
S	26	4-648-910-31	PANEL, RIGHT	
S	28	A-8025-103-A	PANEL ASSY (UPPER) (for 2 BAY) (U)	
S	31	A-8025-104-A	PANEL ASSY (LOWER) (U)	
S	32	X-4623-809-1	AUDIO ASSY (U), DOOR	
S	33	4-045-250-21	DAMPER	
S	♦34	1-761-387-11	BOARD, SWX-66	
S	♦37	1-681-235-11	BOARD, CNX-138	
O	38	X-4623-522-1	BRACKET AV ASSY	
S	39	1-959-197-21	HARNESS (1394)	
O	41	X-4623-010-2	BRACKET ASSY, HDD	
S	♦42	A-8049-328-A	HDD/Q-FAS (60GB) ASSY (S)	
S	♦42	A-8110-895-A	HDD (S-U6/60GB) ASSY (S)	
S	♦43	1-761-430-11	MODEM CARD (LOW PROFILE)	
S	♦46	1-772-251-41	FDD	
O	47	X-4623-520-1	BRACKET ASSY, FDD	
O	48	X-4623-735-1	BRACKET (ATX) ASSY (AMD)	
O	49	4-654-833-01	LABEL, I/O	
O	50	4-654-817-01	LABEL, SLOT	
O	51	4-650-918-11	SPACER, MB	
S	52	4-643-547-01	FOOT	
O	53	4-640-554-11	CABLE CLAMP	
O	54	4-640-554-21	CABLE CLAMP	
S	58	4-648-913-11	ESCUTCHEON (P)	
S	♦59	1-796-084-11	DVD-ROM/P-G6TR (16X)	
O	60	4-654-735-01	LABEL, ID	
O	67	4-651-252-01	SHIELD, LED	
O	74	4-650-779-01	PANEL, PCI SLOT	
S	♦80	A-8049-313-A	HDD/M-LEO (80GB) ASSY (S) for CTO Option	
S	81	8-749-018-19	DIMM 256MB (MC-4532CD647PF-A75) for CTO Option	
S	81	8-749-018-02	DIMM 128MB (MC-4516CB647PF-A75) for CTO Option	
O	84	4-078-636-01	GASKET (A)	
S	88	1-804-502-11	THERMISTOR	
S	89	7-682-647-01	+PS 3X6	
O	90	4-656-049-01	SPACER, LEFT PANEL	
S	♦91	1-761-444-11	CARD, MODEM for CTO Option	
O		7-300-000-40	SILICON COMPOUND (G-765) 90G * Used on replacing CPU, heat sink. (Refer to page 2-14)	

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7-3. EXPLODED VIEWS AND PARTS LIST (PCV-RX470DS)

S/P	Ref. No.	Part No.	Description	Remark
S	1	4-648-912-31	PANEL, LEFT	
O	2	X-4623-012-1	LEFT CHASSIS ASSY	
⚠S	3	1-468-601-13	POWER UNIT	
⚠S	3	1-468-601-23	POWER UNIT	
O	4	X-4623-542-1	BRACKET (PS (280W)) ASSY	

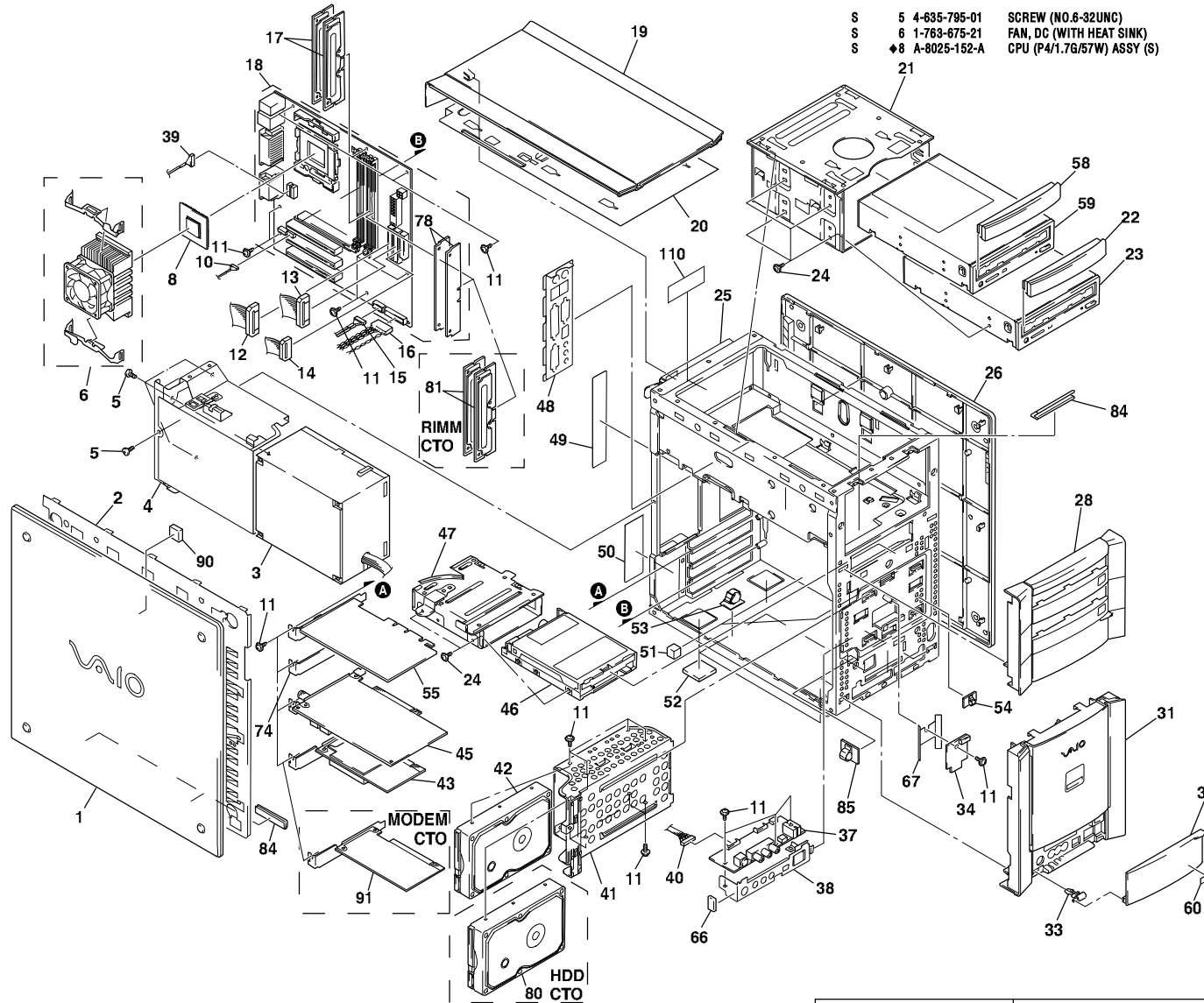| S/P	Ref. No.	Part No.	Description	Remark
S	5	4-635-795-01	SCREW (NO.6-32UNC)	
S	6	1-763-675-21	FAN, DC (WITH HEAT SINK)	
S	♦8	A-8049-327-A	CPU (P4/1.5G/370/4SH) ASSY (S)	
S	11	1-645-944-01	SCREW (SW) (NO.6-32UNC)	
S	12	1-959-912-31	HARNESS (IDE CD/DVD)	
S	13	1-960-364-31	HARNESS (IDE/ATA100)	
S	14	1-959-946-41	HARNESS (FDD)	
S	15	1-960-947-31	HARNESS (USB/LUKE)	
S	16	1-959-913-21	HARNESS (SW/LED)	
S	17	8-749-019-34	RIMM 64MB (MC-4R64CPE6C-845)	
S	♦18	A-8025-155-A	MOTHER BOARD (YA) ASSY (S)	
S	19	4-648-911-31	PANEL, TOP	
O	20	4-648-889-01	UPPER CHASSIS	
O	21	X-4623-008-1	CD HOLDER ASSY	
S	22	4-648-882-31	ESCUTCHEON (S)	
S	♦23	A-8049-315-A	CD-RW DRIVE (160E-T3MM) ASSY (S)	
S	24	7-682-903-01	SCREW +PWH 3X5	
O	25	X-4623-521-1	CHASSIS ASSY, MAIN	
S	26	4-648-910-31	PANEL, RIGHT	
S	28	A-8025-103-A	PANEL ASSY (UPPER) (for 2 BAY) (U)	
S	31	A-8025-104-A	PANEL ASSY (LOWER) (U)	
S	32	X-4623-809-1	AUDIO ASSY (U), DOOR	
S	33	4-045-250-21	DAMPER	
S	♦34	1-761-387-11	BOARD, SWX-66	
S	♦37	1-681-235-11	BOARD, CNX-138	
O	38	X-4623-522-1	BRACKET AV ASSY	
O	39	1-959-197-21	HARNESS (1394)	
O	41	X-4623-010-2	BRACKET ASSY, HDD	
S	♦42	A-8049-328-A	HDD/Q-FAS (60GB) ASSY (S)	
S	♦42	A-8110-895-A	HDD (S-U6/60GB) ASSY (S)	
S	♦43	1-761-430-11	MODEM CARD (LOW PROFILE)	
S	♦46	1-772-251-41	FDD	
S	47	X-4623-520-1	BRACKET ASSY, FDD	
O	48	X-4623-108-1	BRACKET (ATX) ASSY (1394)	
O	49	4-654-832-01	LABEL, I/O	
O	50	4-654-835-01	LABEL, SLOT	
O	51	4-650-918-11	SPACER, MB	
O	52	4-643-547-01	FOOT	
O	53	4-640-554-11	CABLE CLAMP	
O	54	4-640-554-21	CABLE CLAMP	
S	♦55	1-761-406-11	CARD, VGA (GE FORCE2)	
S	58	4-648-913-11	ESCUTCHEON (P)	
S	♦59	1-796-084-11	DVD-ROM/P-G6TR (16X)	
O	60	4-654-731-01	LABEL, ID	
O	67	4-651-252-01	SHIELD, LED	
O	74	4-650-779-01	PANEL, PCI SLOT	
S	78	1-761-410-11	CRIMM (YO)	
S	♦80	A-8049-313-A	HDD/M-LEO (80GB) ASSY (S) for CTO Option	
S	81	8-749-019-79	RIMM 64MB (MR16R0824BN1-CK8) for CTO Option	
S	81	6-600-004-01	RIMM 128MB (MR16R0828BN1-CK8) for CTO Option	
O	84	4-078-636-01	GASKET (A)	
O	85	4-640-554-01	CABLE CLAMP	
O	90	4-656-049-01	SPACER, LEFT PANEL	
S	♦91	1-761-444-11	CARD, MODEM for CTO Option	
O		7-300-000-40	SILICON COMPOUND (G-765) 90G * Used on replacing CPU, heat sink. (Refer to page 2-14)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

S/P	Ref. No.	Part No.	Description	Remark
S	1	4-648-912-31	PANEL, LEFT	
O	2	X-4623-012-1	LEFT CHASSIS ASSY	
⚠S	3	1-468-601-13	POWER UNIT	
⚠S	3	1-468-601-23	POWER UNIT	
O	4	X-4623-542-1	BRACKET (PS (280W)) ASSY	
S	5	4-635-795-01	SCREW (NO.6-32UNC)	
S	6	1-763-675-21	FAN, DC (WITH HEAT SINK)	
S	◆8	A-8025-152-A	CPU (P4/1.7G/57W) ASSY (S)	
S	11	4-645-944-01	SCREW (SW) (NO.6-32UNC)	
S	12	1-959-912-31	HARNESS (IDE CD/DVD)	
S	13	1-960-364-31	HARNESS (IDE/ATA100)	
S	14	1-959-946-41	HARNESS (FDD)	
S	15	1-960-947-31	HARNESS (USB/LUKE)	
S	16	1-959-913-21	HARNESS (SW/LED)	
S	17	8-749-019-34	RIMM 64MB (MC-4R64-CPE6C-845)	
S	◆18	A-8025-155-A	MOTHER BOARD (YA) ASSY (S)	
S	19	4-648-911-31	PANEL, TOP	
O	20	4-648-889-01	UPPER CHASSIS	
O	21	X-4623-008-1	CD HOLDER ASSY	
S	22	4-648-882-31	ESCUTCHEON (S)	
S	◆23	A-8049-315-A	CD-RW DRIVE (160E-T3MM) ASSY (S)	
S	24	7-682-903-01	SCREW +PWH 3X5	
O	25	X-4623-521-1	CHASSIS ASSY, MAIN	
S	26	4-648-910-31	PANEL, RIGHT	
S	28	A-8025-102-A	PANEL ASSY (UPPER) (for 2 BAY)	
S	31	A-8025-104-A	PANEL ASSY (LOWER) (U)	
S	32	X-4623-843-1	AUDIO ASSY (U), DOOR	
S	33	4-045-250-21	DAMPER	
S	◆34	1-761-387-11	BOARD, SWX-66	
S	◆37	1-681-235-11	BOARD, CNX-138	
O	38	X-4623-522-1	BRACKET AV ASSY	
S	39	1-959-197-21	HARNESS (1394)	
O	41	X-4623-010-2	BRACKET ASSY, HDD	
S	◆42	A-8049-313-A	HDD/M-LEO (80GB) ASSY (S)	
S	◆42	A-8058-425-A	HDD (S-U6/80GB) ASSY (S)	
S	◆43	1-761-430-11	MODEM CARD (LOW PROFILE)	
S	◆46	1-772-251-41	FDD	
O	47	X-4623-520-1	BRACKET ASSY, FDD	
O	48	X-4623-108-1	BRACKET (ATX) ASSY (1394)	
O	49	4-654-832-01	LABEL, I/O	
O	50	4-654-835-01	LABEL, SLOT	
S	51	4-650-918-11	SPACER, MB	
S	52	4-643-547-01	FOOT	
S	53	4-640-554-11	CABLE CLAMP	
O	54	4-640-554-21	CABLE CLAMP	
S	◆55	1-761-406-11	CARD, VGA (GE FORCE2)	
S	58	4-648-913-11	ESCUTCHEON (P)	
S	◆59	1-796-084-11	DVD-ROM/P-G6TR (16X)	
O	60	4-654-729-01	LABEL, ID	
O	67	4-651-252-01	SHIELD, LED	
O	74	4-650-779-01	PANEL, PCI SLOT	
S	◆78	1-761-410-11	CRIMM (YO)	
S	◆80	A-8049-313-A	HDD/M-LEO (80GB) ASSY (S) for CTO Option	
S	81	8-749-019-79	RIMM 64MB (MR16R0824BN1-CK8) for CTO Option	
S	81	6-600-004-01	RIMM 128MB (MR16R0828BN1-CK8) for CTO Option	
O	84	4-078-636-01	GASKET (A)	
O	85	4-640-554-01	CABLE CLAMP	
O	90	4-656-049-01	SPACER, LRFT PANEL	
S	◆91	1-761-444-11	CARD, MODEM for CTO Option	
O		7-300-000-40	SILICON COMPOUND (G-765) 90G * Used on replacing CPU, heat sink. (Refer to page 2-14)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-5. EXPLODED VIEWS AND PARTS LIST (PCV-RX490TV)

S/P	Ref. No.	Part No.	Description	Remark
S	1	4-648-912-21	PANEL, LEFT	
O	2	X-4623-012-1	LEFT CHASSIS ASSY	
⚠S	3	1-468-601-13	POWER UNIT	
⚠S	3	1-468-601-23	POWER UNIT	
O	4	X-4623-542-1	BRACKET (PS (280W)) ASSY	
S	5	4-635-795-01	SCREW (NO.6-32UNC)	
S	6	1-763-675-21	FAN, DC (WITH HEAT SINK)	
S	◆8	A-8025-152-A	CPU (P4/1.7G/57W) ASSY (S)	

S/P	Ref. No.	Part No.	Description	Remark
S	10	1-960-620-11	HARNESS (YUZU AUDIO)	
S	11	4-645-944-01	SCREW (SW) (NO.6-32UNC)	
S	12	1-959-912-31	HARNESS (IDE CD/DVD)	
S	13	1-960-364-31	HARNESS (IDE/ATA100)	
S	14	1-959-946-41	HARNESS (FDD)	
S	15	1-960-947-31	HARNESS (USB/LUKE)	
S	16	1-959-913-21	HARNESS (SW/LED)	
S	17	8-749-019-34	RIMM 64MB (MC-4R64CPE6C-845)	
S	◆18	A-8025-155-A	MOTHER BOARD (YA) ASSY (S)	
S	19	4-648-911-21	PANEL, TOP	
O	20	4-648-889-01	UPPER CHASSIS	
O	21	X-4623-008-1	CD HOLDER ASSY	
S	22	4-654-723-01	ESCUTCHEON (ASUS)	
S	◆23	1-796-181-11	CD-ROM/ASR (40X)	
S	24	7-682-903-01	SCREW +PWH 3X5	
O	25	X-4623-521-1	CHASSIS ASSY, MAIN	
S	26	4-648-910-21	PANEL, RIGHT	
S	28	A-8025-102-A	PANEL ASSY (UPPER) (for 2 BAY) (U)	
S	31	A-8025-105-A	PANEL ASSY (LOWER) (U) (GP)	
S	32	X-4623-843-1	AUDIO ASSY (U) (GP), DOOR	
S	33	4-045-250-21	DAMPER	
S	◆34	1-761-387-11	BOARD, SWX-66	
S	◆37	1-681-234-11	BOARD, CNX-137	
O	38	X-4623-522-1	BRACKET AV ASSY	
S	39	1-959-197-21	HARNESS (1394)	
S	40	1-959-225-41	HARNESS (AUDIO)	
O	41	X-4623-010-2	BRACKET ASSY, HDD	
S	◆42	A-8049-313-A	HDD/M-LEO (80GB) ASSY (S)	
S	◆42	A-8058-425-A	HDD (S-U6/80GB) ASSY (S)	
S	◆43	1-761-430-11	MODEM CARD (LOW PROFILE)	
S	◆45	A-8066-745-A	MOUNTED PWB ENX-15	
S	◆46	1-772-251-41	FDD	
O	47	X-4623-520-1	BRACKET ASSY, FDD	
O	48	X-4623-108-1	BRACKET (ATX) ASSY (1394)	
O	49	4-654-832-01	LABEL, I/O	
O	50	4-654-834-01	LABEL, SLOT	
O	51	4-650-918-11	SPACER, MB	
S	52	4-643-547-01	FOOT	
O	53	4-640-554-11	CABLE CLAMP	
O	54	4-640-554-21	CABLE CLAMP	
S	◆55	1-761-406-11	CARD, VGA (GE FORCE2)	
S	58	4-652-509-01	ESCUTCHEON (P-DVDRW)	
S	◆59	1-796-083-11	DVD-RW/P-G1	
O	60	4-654-726-01	LABEL, ID	
O	66	4-651-848-01	STOPPER, BRACKET	
O	67	4-651-252-01	SHIELD, LED	
O	74	4-650-779-01	PANEL, PCI SLOT	
S	◆78	1-761-410-11	CRIMM (YO)	
S	◆80	A-8049-313-A	HDD/M-LEO (80GB) ASSY (S) for CTO Option	
S	81	8-749-019-79	RIMM 64MB (MR16R0824BN1-CK8) for CTO Option	
S	81	6-600-004-01	RIMM 128MB (MR16R0828BN1-CK8) for CTO Option	
O	84	4-078-636-01	GASKET (A)	
O	85	4-640-554-01	CABLE CLAMP	
O	90	4-656-049-01	SPACER, LEFT PANEL	
S	◆91	1-761-444-11	CARD, MODEM for CTO Option	
S	110	4-645-484-01	DVD LICENSE STICKER	
O		7-300-000-40	SILICON COMPOUND (G-765) 90G * Used on replacing CPU, heat sink. (Refer to page 2-14)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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7-6. ACCESSORIES AND PARTS LIST
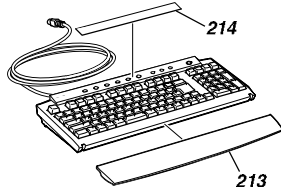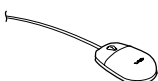
201
POWER CORD (1)

202
ANTENNA CABLE (1)

203
VIDEO CABLE (1)

(PCV-RX490TV)

204
KETBOARD (1)

214
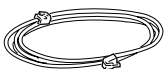
213

205
MOUSE (1)

206
AUDIO CABLE (1)

(PCV-RX490TV)
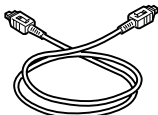
207
MODEM CABLE (1)

208
CONVERSION CONNECTOR
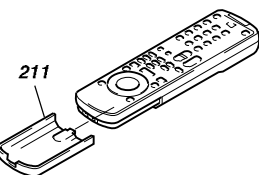(VIDEO CONNECTING) (2)

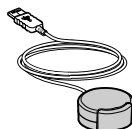(PCV-RX490TV)

209
i. LINK CABLE (1)

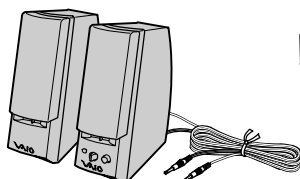(PCV-RX470DS/RX480DS/RX490TV)

210
REMOTE COMMANDER (1)

211

212
RAY-CATCHER UNIT (1)

(PCV-RX490TV)

215
SPEAKER UNIT (1)

216
AC ADAPTOR (1)
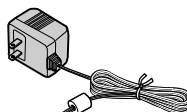
S/P	Ref. No.	Part No.	Description	Remark
			ACCESSORIES & PACEKING MATEIRALS	
			************************************	
S		4-655-698-01	(RX490TV)...USER GUIDE	
S		4-655-700-01	(RX470DS/RX480DS)...USER GUIDE	
S		4-655-699-01	(RX490TV)...QUICK START	
S		4-655-701-01	(RX470DS/RX480DS)...QUICK START	
S		4-655-703-01	(RX450/RX460)...QUICK START	
⚠S	201	1-777-786-11	CORD, AC	
S	202	1-777-801-21	(RX490TV)...CORD, CONNECTION	(F TYPE RF)
S	203	1-777-802-21	(RX490TV)...CORD, CONNECTION	(VIDEO)
S	◆204	1-772-704-71	KEY BOARD (US)	
S	◆205	1-772-207-71	WHEEL MOUSE (PS/2)	
S	206	1-765-263-21	(RX490TV)...CORD, CONNECTION	(RK-G129)
S	207	1-782-207-11	CABLE, MODEM	
S	208	1-790-009-21	(RX490TV)...CABLE, VIDEO	(WITH CONNECTOR)
S	209	1-790-145-21	(RX470DS/RX480DS/RX490TV)... CORD WITH CONNECTOR (I.LINK)	
S	210	1-476-795-11	(RX490TV)...REMOTE COMMANDER	(US)
S	211	9-885-003-36	(RX490TV)...LID, BATTERY	
S	212	1-418-887-22	(RX490TV)...RAY-CATCHER UNIT	
S	213	9-885-008-07	REST, PALM	
S	214	9-885-000-89	PLATE (PLAIN), TOP	
S	215	1-544-899-11	SPEAKER UNIT	
⚠S	216	1-476-386-21	ADAPTOR, AC (for SPEAKER UNIT)	

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Replace only with part number specified.

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Ne les remplacer que par une pièce portant le numéro spécifié.

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PCV-RX450/RX460/RX470DS/RX480DS/RX490TV (UC)

List of PCV-RX Series (2003. 12.17)

Model	Service Manual Parts No.
PCV-RX260DS PCV-RX270DS PCV-RX280DS	9-928-379-11
PCV-RX360DS PCV-RX370DS PCV-RX380DS	9-928-395-11
PCV-RX450 PCV-RX460 PCV-RX470DS PCV-RX480DS PCV-RX490TV	9-874-306-12

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